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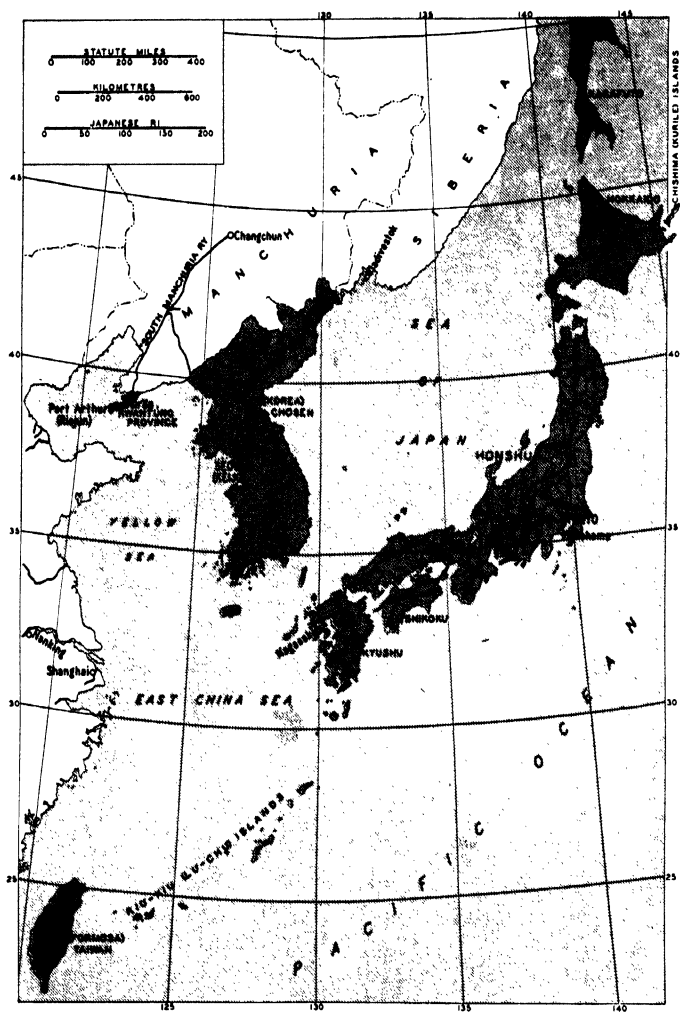
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JAPAN

AN ECONOMIC AND FINANCIAL APPRAISAL

JAPANESE EMPIRE



JAPAN

AN ECONOMIC AND FINANCIAL APPRAISAL

BY

HAROLD G. MOULTON

WITH THE COLLABORATION OF

JUNICHI KO

WASHINGTON, D. C.

THE BROOKINGS INSTITUTION

1931

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Set up and printed.

Published September, 1931.

Second impression, July, 1933.

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DIRECTOR'S PREFACE

This book is the product of a co-operative research effort of a quite unusual character. The study was suggested three years ago by Mr. Junnosuke Inouye, then president of the Institute of Pacific Relations, who was familiar with the studies which the Institute of Economics had heretofore made of various European countries. It was the idea of this eminent Japanese statesman, financier, and civic leader that a comprehensive scientific investigation of Japan's general economic and financial condition would not only prove distinctly useful to Japan at a crucial period in her history but, at the same time, through clarifying economic issues and problems, would serve to correct both in Japan and abroad certain economic misconceptions which have been a fruitful source of international misunderstanding.

As a means of making the investigation possible, Mr. Inouye, as Governor of the Bank of Japan, placed at our disposal the facilities of the Economic Research Department of the Bank and gave us the active collaboration of Mr. Junichi Ko, the chief of that Department. By virtue of the fact that Mr. Inouye in 1929 became for a second time the Finance Minister of Japan, the aid of all the departments of government in assembling the necessary data was readily secured.

As the first step in the investigation, there was prepared an extensive outline by chapter and subdivision, which called for the assembling and translation into English of a vast amount of factual and statistical material. The Research Department of the Bank of

Japan spent nine months in the assembling and collating of this material, and in June, 1929 Mr. Ko brought this material to Washington and remained here for a month of conferences at which the material was analyzed and appraised. Inevitably some of the material had to be revised and much additional information proved to be necessary. Later in the year, after his return to Japan, Mr. Ko furnished a large volume of additional data.

Meanwhile, before departing for Japan in the summer of 1930, Mr. Moulton had been able to prepare a tentative draft of his analysis. Hence, while in Japan, he was able to concentrate his attention upon certain crucial issues and problems, checking statistical evidence and tentative conclusions against the experience and the opinions of Japanese officials, professional economists, and business leaders.

Parts I and II of the book present a systematic and authoritative statistical record of Japan's economic evolution. On this foundation the author proceeds to an analysis and interpretation of the economic and social results of the developments which have accompanied the introduction of Western industrialism. With this story complete, the author is in a position to discuss present-day problems and policies.

At this time, when the more progressive nations in many parts of the world are giving close study to the problem of how national planning may be used to accelerate national development, it is a matter of peculiar interest to see what has been accomplished by the political and economic leaders of Japan in the short period since they renounced the ancient feudal system to join the march of modern progress. It is quite in keeping with the tradition of Japan in studying and adapting institutions and procedures from her sister nations in Europe and America that she should be

interested now in a critical investigation of her present situation and outlook, conducted in an objective manner by a scientific research agency. It is our hope that the interpretation will be found accurate and penetrating, and that the comments and suggestions as to future prospects and the wisest courses to be followed may prove useful at this particular juncture.

The members of the staff who served on the committee which co-operated with the author in the preparation of this volume were Leo Pasvolsky, Lewis L. Lorwin, and Robert R. Kuczynski.

E. G. NOURSE
Director

Institute of Economics
August, 1931

AUTHOR'S STATEMENT AND ACKNOWLEDGMENTS

In view of the statistical character of this volume, a few words of comment are perhaps in order as to the adequacy and reliability of Japanese statistical data. Until about a decade ago, except in a relatively few fields, the available data were far from satisfactory, chiefly because of incompleteness and tardiness in publication. Since the World War, however, in Japan as in many other countries, there has been a remarkable increase of interest in the subject and a great expansion of facilities for the gathering and correlation of data. My observation is that, on the whole, Japanese statistical methods and data now compare favorably with those of other countries. In the fields of public finance and the international accounts the data are in fact exceptionally complete. It would be impossible, for example, to present for the United States as comprehensive a picture of the condition of national, state, and local government finances as we have been able to give for Japan. The interested reader will, however, see from the discussion of Chapter XI that the methods of accounting and of presenting the results of fiscal operations in Japan, as elsewhere, are still far from satisfactory. In the interest of uniformity, as well as because the year 1930 marked the beginning of the great depression, we have ended the tables and charts with the year 1929, even though in some cases later data were available.

Mere words can scarcely express the extent of my obligations to Mr. Ko for his collaboration. In his efforts to compile the complete statistical series in the

form required for my purposes, and to make this volume an authoritative source book of statistical information, Mr. Ko—and also the assistants in his department—have labored indefatigably. Of equal importance has been the service rendered in gathering descriptive and other material relating to Japanese economic institutions and in checking the manuscript for possible errors of fact. A more painstaking, scientific, and co-operative associate than Mr. Ko could scarcely be found; and I am especially gratified that he is to have charge of the Japanese translation. It should be stated here, however, that Mr. Ko is in no wise to be held accountable for any of the interpretations found in the volume. For these I alone am responsible. I am also indebted to Mr. Charles L. Dearing, of the Institute of Economics, for the exceptionally able assistance which he has rendered in the preparation of the volume.

I must also express my great appreciation of the original and continuing interest of Mr. Junnosuke Inouye, and of the assistance given in carrying out the project by Mr. Hisaakira Hijikata and Mr. Eigo Fukai, Governor and Vice-Governor, respectively, of the Bank of Japan.

HAROLD G. MOULTON

Washington, D. C.
August 26, 1931

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PART I

INTRODUCTORY

CHAPTER I

HISTORICAL SUMMARY

The foundations of the Japanese nation were apparently laid some centuries before the Christian Era, though recorded history does not begin until the eighth century A. D. The establishment of the Empire is traditionally placed at a date as remote as 660 B. C., when the mythical Jimmu, popularly believed to be a direct offspring of the gods, became the first Emperor. It is a matter of the greatest pride to the Japanese people that since that time the country has been under the reign of a single dynasty, and that it has never felt the yoke of a foreign conqueror. The Emperor of today is believed to be the 124th in the Imperial line and of the 71st generation.

Anthropological investigations have revealed that the present Japanese people are of distinctly mixed racial composition. The original basic stock was apparently of Polynesian or Malayan derivation. Moving northward along the Pacific islands, these people had established themselves long before the beginning of the Christian Era in the southern islands of Japan. As they spread northward over Honshu (Main Island), however, they came into conflict with an aboriginal people known as the Ainu. It is the consensus of anthropological opinion that the Ainu were of Caucasian origin. From northeast Siberia they had apparently crossed to the island of Saghalien, and moving southward had eventually occupied the island of Hokkaido and a large part of the Main Island (see frontispiece map). The conflict between these two racial groups resulted after some hundred years

of struggle in the defeat of the Ainu, though they were never completely conquered. In the course of time the bulk of the Ainu population was absorbed through intermarriage with their conquerors, but remnants of the race are still found in northern Hokkaido, while the population of Karafuto (the southern half of Saghalien) is almost entirely of Ainu stock.

Meanwhile, in the seventh and eighth centuries A. D. occurred a great migration into Japan from China and Korea (Chosen). It has been estimated that perhaps a third of the entire population of the southern and principal islands of Japan was, at this period, of Mongolian stock. This migration profoundly affected the cultural and economic life of Japan, modifying the language, religion, industrial arts, and governmental organization, and it also exerted a strong influence upon the racial composition of the island people. The modern Japanese is thus apparently an admixture of Polynesian, Caucasian, and Mongolian racial types.

While sovereignty has been continuously vested in the Emperor, the degree of power actually exercised by him has varied greatly in different eras. In the earlier centuries, the Emperors ruled in person, or with the aid of selected noblemen of the court. About the middle of the seventh century A. D., however, the actual reins of government passed into the hands of a powerful family of hereditary court nobles, the Fujiwara, who, except for brief periods when other nobles gained the ascendancy or the Imperial power was temporarily re-established, administered the affairs of state in the name of the Emperor.

The influence of the Fujiwara was in turn gradually undermined by military chieftains, the most powerful of whom at any period became the *de facto* ruler. The first of these military dictators assumed power in 1167. The second, in 1184, was appointed "*sei-taishogun*"—

meaning great barbarian-subduing-general. The shoguns effectually emphasized the sacred origin and significance of the Emperor by the establishment of a dual government, under which the Emperor resided in seclusion in his palace of peace and holiness at Kyoto, while the mundane military and civil affairs of state were usually administered elsewhere by the shogun—since 1603 at Edo, or Yedo, the ancient name of Tokyo.

Successive shoguns ruled Japan for nearly seven hundred years. In the earlier centuries, there was perennial warfare among rival military lords struggling for supremacy, and the Japan of this era has been described as a “weltering mass of feudal atoms.” At length, in 1603, General Ieyasu established the Tokugawa shogunate, which by means of skillful administration, succeeded in maintaining for more than two centuries an era of “great peace,” continuing its rule until the epoch-making Imperial Restoration of December, 1867, with which the history of modern Japan begins.

It was in the Tokugawa era that the Japanese policy of isolation was developed. For a period of more than 200 years, all foreigners save the Dutch and the Chinese were excluded from the Island Empire, and Japanese citizens were forbidden to leave the country under penalty of death. This policy, which gave to Japan the name of the “Hermit Nation,” was apparently based in no small measure upon the conviction that the vigorous and successful efforts which Portuguese and Spanish missionaries had made, between 1549 and 1612, to propagate the Roman Catholic faith in Japan threatened to undermine Japanese ideals and institutions and constituted a serious political menace as well. Since the Chinese and the Dutch were not interested in religious activities, they were allowed

to trade, under rigid regulations, at the southern port of Nagasaki. The policy of isolation was, moreover, evidently regarded as an indispensable aid to the maintenance of the power of the shogunate itself, and to the promotion of national unity—objectives which were successfully achieved.

With the detailed history of the decline of the Tokugawa, and the restoration of a unified government under the Emperor in the third quarter of the nineteenth century, we are not here concerned. The story of the mission of Admiral Perry and his "black ships" in 1853 and the conclusion, on March 31, 1854, of the treaty which brought to an end the long period of Japanese seclusion and paved the way for the gradual development of commercial, diplomatic, and cultural relations with the outside world is well known, as is also the influence of these relationships in strengthening the position of those who favored the re-establishment of a unified government in place of the anomalous dualism of the old order.¹ It is desirable, however, to comment briefly on the economic factors that were involved in the transformation from the old to the new Japan.

In Japan as in the Western World a feudal organization of society prevailed during the Middle Ages, reaching its culmination during the rule of the Tokugawa shogunate. The centralization of power in the hands of a shogun, who in addition to military sagacity possessed exceptional administrative talent, together with the policy of rigid seclusion, led to a greater perfection of the feudal system in Japan than apparently ever existed elsewhere and to the main-

¹ For succinct accounts in English, see Treat, Payson J., *Japan and the United States, 1853-1921*; and Latourette, Kenneth S., *The Development of Japan*.

tenance of that system for a much longer period of time.

Commercial seclusion, however, was never complete, even in the heyday of the Tokugawa régime, and profound changes in the economic organization of the country had been occurring even before 1850. Dutch traders at Nagasaki brought news of developments in other lands, and as early as 1700 a book on conditions abroad was published in Japanese. In due course Dutch came to be studied as a language and through Dutch books much of the scientific knowledge of the Western World was introduced. As early as 1800, plans for establishing factories were discussed; and in the decade of the fifties a progressive *daimyo*, living near Nagasaki, established plants which cast guns and produced many articles such as glass, ceramics, sulphuric acid, distilled spirits, sugar, agricultural implements, shipbuilding machinery, and oil extracting machines. Electric machines were also experimented with, and a refinery was established where drugs, sugar, and other products were analyzed, and gold and silver were assayed.

Nor was it only from the world outside that the pressure for change was coming. Internal transformations that reached to the very foundations of the economic and social order were gradually but inexorably occurring. The steady development of a money economy, including a wage system, was slowly undermining the feudal system of local or manorial economic self-sufficiency. It led to the development of a handicraft, or household, industry comparable to that of Europe in the sixteenth century and to the organization of internal trade over ever increasing areas, transforming in time the castled feudal town into the modern commercial city. As payments in kind, even in the country, were gradually supplanted by money

exchanges, the peasant increased his range of choice and opportunity. Even the *samurai*, or war lords, came eventually to find that money, which for long generations they had been taught to regard as defiling to the soul, had become an indispensable medium for carrying on the every-day business of living.²

As in Europe, moreover, the rise of a commercial class (*chonin*), which came with the development of internal trade and the growth of urban centers, in time undermined the economic power and the influence of the feudal lords. By virtue of their financial power the despised *chonin* class, through loans to distressed landlords and by means of gifts as well as by the payment of taxes to embarrassed governments, steadily rose to positions of social and political importance. At the same time, dire poverty prevailed among the feudal groups, from the shogunate itself through all the ranks to the humblest retainer. The Tokugawa administrative system, constructed for the purpose of cementing and maintaining a feudal organization, was not adapted, or apparently adaptable, to the new system of national economy that was evolving.³ The development of an agitation for fundamental changes was, therefore, inevitable.

For reasons which need not here be discussed the movement for reform culminated in a revolution—the backbone of which was found in the lower class *samurai*⁴ whose economic position had been steadily

² Takizawa, Matsuyo, *The Penetration of Money Economy in Japan and Its Effects upon Social and Political Institutions*, 1928.

³ A large number of articles and monographs on economic, social, and political problems were written in manuscript during the eighteenth and early nineteenth centuries. See Takizawa, *ibid.*, for bibliography.

⁴ Honjo, Eijiro, "The new Economic Policy in the Closing Days of the Tokugawa Shogunate," *Kyoto University Economic Review*, December, 1929, p. 52. For a comprehensive study of

deteriorating—directed toward the overthrow of the shogunate, the restoration of the Emperor to the position of an active ruler, and the establishment of a unified government. The coming of Commodore Perry and the “emergence of foreign relations” merely furnished the occasion for the movement which culminated in the Imperial Restoration of December, 1867.

With the restoration of 1868 (“the first year of Meiji” in the Japanese calendar) began a series of political, social, and economic transformations which in scope and rapidity of movement are unparalleled in history. Within the span of a single generation Japan emerged from a secluded feudal state—without a ship that could traverse the open seas, without railroads, without financial institutions, with negligible commerce, with handicraft industry, with primitive agriculture—and became a highly developed agricultural, industrial, and financial nation, with extensive trade relations throughout the world, with ships on every sea—recognized, moreover, as an important member of the family of nations in the domain of science, art, and culture, as well as in the realms of economics and politics. It is with the economic phases of this story that this study is primarily concerned.

Shortly after his accession to power, the young Emperor took the “charter” oath, which outlined the fundamental tenets of the new faith and initiated the basic principles that were to underlie the new political and economic system. Significant passages are as follows:

An assembly widely convoked shall be established, and all affairs of state shall be decided by impartial discussion, and in the light of public opinion.

Japan's economic history from the earliest times, recently published in English by the Macmillan Company, the reader is referred to Takekoshi, Yosoburo, *The Economic Aspects of the History of the Civilization of Japan*, 3 vols.

The civil and military powers shall be centered in a single whole, and, in order that the national mind may be satisfied, equal opportunity shall be assured to all classes.

The whole nation from the upper to the lower classes of the people shall be united and shall strive for the progress and welfare of the country.

All absurd old usages shall be abandoned and justice and righteousness shall regulate all actions.

Intelligence and learning shall be sought for throughout the world, in order to establish the foundations of the Empire.

While these democratic principles have never been fully realized and were perhaps never intended to be taken quite literally, within a few years feudalism was abolished and a national code of laws was instituted in place of the heterogeneous legal customs of the old organization; a centralized government was established; a national army, recruited from all ranks of society, was organized; a new aristocracy, national in character, replaced the old military and civil classes; a system of universal education open to every boy and girl in the Empire was established; the seclusion laws were repealed; and religious tolerance was instituted in practice, though it was not until the establishment of the constitution of 1889 that it became a part of the law of the land.

Equally striking, though halting and gradual in the early stages, were the economic developments that occurred. The completely demoralized currency system was reorganized and unified under the national government. A national postal service, supplemented by a telegraph system, was introduced and managed by the government; railroads were established; foreign trade was encouraged; young Japanese scholars were sent abroad for scientific study; and industrial plants based upon occidental models were established by the

government with a view to the stimulation of private enterprise.

Knowledge was indeed sought from all the world, for Japanese economic, educational, and social institutions were based on principles and practices which had long been tested in other countries. No single nation was used as a model, the experience of many countries being surveyed and drawn upon; and seldom was an institution taken over without substantial modification. The policy that was pursued was one of intelligent eclecticism and appropriate adaptation to the conditions peculiar to Japan.

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CHAPTER II

THE SYSTEM OF GOVERNMENT

While the declaration of the "charter oath" appeared to foreshadow the early introduction of a system of representative government, it was 20 years before a constitution was established. In the early years of the Meiji era, the government was a complete bureaucracy. Aiding the Emperor was the Council of State (*Daijokwan*) which was naturally recruited almost entirely from members of the old *samurai* class. Local administration was controlled from Tokyo, civil officials being appointed to represent the central government. In 1869, an assembly was convened, but its purely consultative function rendered it of little significance.

During the seventies, there were periodical agitations for the establishment of a constitution, but it was not until 1878 that real progress was made, when the government, submitting to pressure, announced the organization of local assemblies whose principal function was to have a voice in local fiscal matters. At length in 1881, the Emperor promised that in 1890 a national assembly would be convened and a constitution granted. In the intervening years, extensive studies were made of the government systems of occidental countries, and the necessary preliminary steps within Japan were also taken, such as the rehabilitation of the nobility, the remodelling of the Council of State, and the introduction of the civil service. The constitutional monarchy was authorized on February 11, 1889, and became effective at the beginning of 1890.

I. THE DIVISION OF POWERS

The constitution provides, in brief, that the Emperor shall be supreme administrative head of the state, with power to create government agencies, appoint administrative and military officials, declare war, make peace, and conclude treaties; that he may exercise legislative power with the consent of the Imperial Diet, or legislative body; and that justice shall be administered by the courts in the name of the Emperor. Thus a feature of the Japanese system of government is the concentration in the person of the Emperor of legislative, administrative, judicial, military, and diplomatic powers.

In practice, the affairs of state are ordinarily conducted by the ministers of state, 13 in number, who, though appointed by the Emperor, take full responsibility for the management of the government. The ministers together form the Cabinet, and one of them serves as Prime Minister, whose duty it is to lay administrative reports before the Throne, convey Imperial commands, and exercise control over the administrative departments. The other ministers hold departmental portfolios and are the responsible administrative heads of their respective departments. Since the ministers of state are empowered to participate at any time in discussions on the floor of the Diet, they are theoretically free from party politics; and they were in the past often actually independent of party considerations. In recent years, however, the development of strong political parties has been gradually instituting, in practice, a parliamentary system.

The ministers are now usually appointed by the Emperor upon the recommendation of the responsible head of the party which possesses the majority of seats in the House of Representatives. And when a vote of lack of confidence is passed in the Diet, especially by

the House of Representatives, it is considered proper that the government should either resign or dissolve the House of Representatives and appeal to the nation by means of a new election. Thus the Cabinet has become increasingly responsive to public opinion.

The Imperial Diet is composed of a House of Peers and a House of Representatives. The president and the vice president of each house are nominated by the Emperor, although the choice for the lower house is confined to three members whose names are presented by that house.

The House of Peers consists of three groups: (1) Princes of the royal blood, 15 in number (January 1, 1930); 14 other princes and 29 marquises—by virtue of their rank; and 18 counts, 66 viscounts, and 66 barons, chosen by the noblemen of these orders. (2) Individuals nominated by the Emperor for meritorious service to the state or for their erudition (at present 120 in number, and limited to 125). (3) Large taxpayers, 66 at present, chosen by the taxpayers of each prefecture, but nominated by the Emperor. There are also four members who are chosen by the Imperial Academy of Sciences. The House of Peers cannot be dissolved by the government. On the other hand, a dissolution of the lower house immediately results in the prorogation of the Peers.

The House of Representatives, 466 in number, consists entirely of deputies elected by the people, the term of office being four years. Formerly, the suffrage was limited by tax-paying qualifications, but in 1925 a universal manhood suffrage law was enacted, giving the franchise to all males over 25 years of age. The first election under the new suffrage system was held in February, 1928, and practically 10,000,000 votes were cast.

Legislation may be initiated by either house, and every law requires the approval of both houses. Bills approved by the Diet become effective only when sanctioned by the Emperor and when the government has been ordered to promulgate and enforce them. Projects for amending the constitution may be submitted to the Diet only on the initiative of the Emperor. When the Diet is not sitting, and in case of urgent necessity, Imperial ordinances may be issued to maintain public safety and to avert public calamities. Such ordinances must, however, be placed before the Diet at its next session and, if they are disapproved, the government declares them invalid for the future.

One of the most important functions of the Diet is the consideration of revenue measures. Revenues and expenditures in the form of an annual budget must be submitted to the Diet—the House of Representatives having priority in fiscal discussions. The Diet must also give approval to any financial transactions not included in the budget, such as national loans or contracts which might become a charge upon the treasury. If expenditures are made out of reserves, or if the government has to meet extraordinary financial appropriations as, for example, in case of public calamity, the Diet must give *ex post facto* approval. Finally, the Diet scrutinizes the report of the Board of Audit which is under the direct control of the Emperor.

The Privy Council and the *Genro*, or “Elder Statesmen,” remain to be considered. The former, consisting of a president, a vice-president, and 24 councillors, appointed by the Emperor, was authorized by the constitution. Cabinet ministers are ex-officio members of the Council. The function of the Council is to *advise* the Emperor on such matters of state as he may choose to submit to it. These are generally limited to affairs pertaining to the Imperial House-

hold, to the constitution, and to treaties with other nations. Its function is thus passive, and its recommendations have no legal sanction.

The *Genro* have never possessed any legal status and yet their actual power and influence has exceeded that of any constitutional group. The original Elder Statesmen were men of high rank and ability, who were close associates and friends of the Emperor in the early years of Meiji, and who constituted an inner circle of advisers. So long as they could hold the confidence of the Emperor, they could be the virtual rulers of Japan. In fact, they chose the Privy Council and the Cabinet and in practice decided all the vital issues of national policy. Incidentally, they were usually also members of the Privy Council. Only rarely did they deem it the part of wisdom to give heed to popular demands and ideas. They were thus able to give to Japan unified and consistent government policy, and one which for this very reason perhaps was relatively unresponsive to the developing ideas of the people.

With the lapse of years, the original *Genro*, and all but one of their immediate successors as well, have passed off the stage. Prince Saionje, a mere youth at the time of the Revolution, but now over 80 years of age, alone remains. It is not expected that he will have a successor. A third generation of Imperial advisers would lack the venerable, almost sacrosanct, character of those who guided the rising Empire through its formative stages. The great changes which time has brought have given too powerful an impetus to democratic institutions to permit the indefinite continuance of an oligarchy in Japan, however beneficent it might, in practice, aspire to be.

The Privy Council has also passed the heyday of its power and influence. This loss of prestige is attrib-

utable not merely to the passing of the *Genro*, who were of course dominant members of the Council itself; it appears to be chiefly assignable to the popular demand for truly representative government to which reference has already been made. As late as 1927 the Council had been able to force the dissolution of a government on a matter of national policy; but in the autumn of 1930 there occurred a test of this power and the decision constitutes a landmark in the political history of Japan.

The naval agreement negotiated at London, after approval by the Minseito government, was in accordance with custom placed by the Emperor before the Council for its advisory opinion. A sub-committee of the Council, after considering the document itself, the procedure followed by the Premier, and the relationship of the treaty to the national budget, sharply questioned the government on several issues which it deemed of vital importance. In the face of what appeared to be a grave political crisis, Premier Hamaguchi stood adamant and in effect defied the Council, relying upon the support of the press and public opinion generally. In the end it was the Council that capitulated; and when the approval of that body went to the Emperor unaccompanied by even a clause of censure of the government, the event was generally regarded as an unconditional surrender. Never again, it is widely believed, will the Privy Council be able to exert a determining influence upon issues of national policy.

II. THE ADMINISTRATIVE SYSTEM

Public affairs are administered by twelve government departments, each under the direction of a minister of state. The departments are: Foreign Affairs; Home Affairs; Finance; Army; Navy;

Justice; Education; Agriculture and Forestry; Commerce and Industry; Communications; Railways; and Overseas (Colonial) Affairs. All affairs pertaining to the Imperial Household are centered in the Department of Imperial Household, in charge of a Minister of the Imperial Household. This department is distinct from the government and the minister is not a minister of state.

Japan proper is divided for administrative purposes into 47 prefectures, the heads of which are governors appointed by the central government. The prefectural governor is at once a magistrate representing the state and the head of the prefecture as a local corporate body. The prefectural assembly, or legislature, is composed of members elected from among the people of the respective prefectures. The prefectures are in turn divided into cities, towns, and villages—some 12,000 in number, in Japan proper. These local units enjoy self-government, the central government giving them only general supervision. They have their mayors, or masters, elected from among the people, and there are no central government officers in these self-governing municipalities. The village or municipal assembly is composed of members elected from among the people and plays an important part in the administration of local affairs.

The administration of justice in Japan is conducted through 282 district courts, 51 prefectural courts, 7 courts of appeal, and 1 supreme court. There is also a court of administrative litigation for handling cases complaining of wrongs suffered from the illegal disposition of administrative offices. Except in certain special cases, the system of two appeals is in practice. Since October, 1928, the jury system has been in vogue in the trial of criminal cases at local courts.

III. COLONIAL ADMINISTRATION

Japanese laws are not enforced in Chosen, Taiwan, Karafuto, the leased territory of Kwantung Province, or the South Sea Islands, which are not represented in the Imperial Diet. By Imperial ordinance, however, Japanese laws may be made enforceable in whole or in part in any of these territories. Chosen and Taiwan are under the control of "Governor-Generals" invested with wide powers. In addition to the ordinary executive authority, the Governor-General possesses the power of settling by ordinance matters which are elsewhere provided for by a law of Parliament. Ordinances relating to legal matters must, however, have the Imperial sanction.

The administrative head of Karafuto, called Governor, possesses much greater authority than does the prefectural governor. He exercises, in fact, powers similar to those of the cabinet ministers in Japan proper. The authority of the Governor of the South Sea Islands is about the same as that of the Governor of Karafuto.

In Kwantung Province, the Governor is in charge of the leased territory, polices the South Manchuria Railway zone, and supervises the business of the South Manchurian Railway. The Governors or Governor-Generals of the various colonies are appointed by the Imperial government.

The judicial system of the colonies, except Karafuto, which is under the jurisdiction of the Japanese courts, is different from that of Japan proper. In Chosen, the courts are of three classes—local courts, courts of review, and high courts of justice. In Taiwan and Kwantung Province, there are local courts and high courts of justice—the latter being divided into two departments: review and appeal. The system of two appeals is in vogue. In the South Sea Islands, there

are two classes of courts, local and high; the judgments of the local courts are reviewed in the high courts. Here, the system of one appeal is employed. The colonial courts are in all cases under the direct control of the Governor or Governor-General.

IV. POLITICAL PARTIES

In the House of Peers there are no political parties, as such. Excepting the princes of the blood, however, the majority of the members divide into groups, according to the orders of nobility or the economic or social class to which they belong. Moreover, since persons having close connection with political parties in the House of Representatives are in increasing numbers nominated as members of the House of Peers, it is of course inevitable that there should be considerable party inclination, if not affiliation, among the members of the upper house.

In the lower house, however, the party system is the basis of organization. The two chief political parties of Japan at the present day are the Minseito and the Seiyukai. There are a number of minor political groups, an unimportant business man's party, and several labor parties generally called "proletarian," which together in 1930 cast only 502,313 votes out of approximately 10,000,000, and elected five delegates to the House of Representatives. (For a discussion of the new united labor party and its principles see Chapter XIX, page 380.)

The platforms of the two major parties are at times none too clearly differentiated in point of view and objective, notwithstanding the fact that the Seiyukai has a greater constituency among the landed aristocracy while the Minseito is more representative of the business interests of the cities. Both, in recent years, have devoted major attention to the pressing problems

of national economy. In the general election of 1928, the platform of the successful Seiyukai enumerated as major considerations the extension of new railway lines, the decentralization of administrative powers, the transfer to local governments of land and business taxes, and the promotion of agrarian interests. In the pursuance of these measures, the Seiyukai did not, however, overlook the interests of the urban population, standing for a "positive" policy of promoting industrial activity by means of loans, subsidies, and other aids. Similarly, the Minseito, while endeavoring to promote the trade and industry of urban communities, did not overlook rural life, having endorsed numerous measures for the promotion of agrarian development.

In the last two years (1929-1930), however, a real difference of method, if not of objective, has developed between the two parties, with regard to financial policy. As against the loan and easy credit policy of the Seiyukai, the Minseito adopted a program of deflation, to be accomplished by the removal of the gold embargo, rigid economy in public expenditures, and the "rationalization" of industry along European and American lines. The economic conditions which occasioned this policy and the issues to which its attempted enforcement has given rise will be revealed and discussed in subsequent chapters.

CHAPTER III

GEOGRAPHY AND RESOURCES

Japan's ability to support a great population on a limited productive area has long excited the admiration of the world. The area of Japan proper (exclusive of colonies) is 147,416 square miles, which is almost exactly equal to that of the state of Montana and only about three and one-half times that of the state of Ohio. The Empire comprises an area of 260,186 square miles, which is slightly less than that of the state of Texas. The population of Japan proper increased from 33,000,000 in 1872 to 64,448,000 in 1930; while the population of the Empire as a whole in 1930 was 90,395,000.¹

The population of Japan proper is approximately 437 persons per square mile, which may be compared with about 41 for the United States as a whole, 162 for the state of Ohio, 349 for Italy, 330 for Germany, 468 for Great Britain, and 670 for Belgium. A better measure of comparison is, however, found in the ratio of population to tillable land. Since the percentage of the total area which is arable is unusually low, only 15.5 per cent, Japan's density of population in proportion to productive land is exceptionally great. The figures below show the population per square mile of arable land.²

Japan Proper.....	2,774	Germany	806
Great Britain.....	2,170	France	467
Belgium	1,709	State of Ohio.....	363.4
Italy	819	The United States.....	229.2

¹ For detailed population figures, see pp. 622-24.

² Population figures are for 1928, except for Japan, the United States, and Ohio, which are for 1930. Arable land figures for

Of the total land area of Japan proper, only 50.1 per cent is privately owned. The public lands include state-owned forests, waste areas, chiefly in the mountainous regions, and certain lands belonging to the Imperial Household. Of the private lands, 44.9 per cent is in forests. The following table shows the classification of the privately owned lands:

PRIVATELY OWNED LANDS OF JAPAN PROPER, JANUARY 1, 1929 *
Classified according to Tax Purposes

Classification	Number of Acres	Percentage Distribution
TAXABLE.....	41,065,850	86.8
Rice fields.....	7,290,377	15.4
Fields for other grains.....	6,941,108	14.7
Lots for buildings.....	1,024,755	2.2
Forests.....	21,246,113	44.9
Plains and pastures.....	4,474,071	9.4
Saltfields, marshes, ponds.....	89,426	0.2
NON-TAXABLE.....	6,252,824	13.2
TOTAL.....	47,318,674	100.0

* Compiled by the Revenue Bureau, Japanese Department of Finance.

The Japanese Empire, as the frontispiece map indicates, consists of a long chain of islands, 1,621 in number, extending from northwest to southwest along the eastern coast of the continent of Asia, and of the mainland peninsula of Chosen. The Japanese islands extend from latitude 21° 45' to 50° 55' north, approximately 2,100 miles, while the longitude is 119° 18' to 156° 30' east, the distance at the widest point being only about 200 miles. For purposes of comparison, it may be noted that the latitude of the United States is 25° to 49° north, and that of the British Isles is 50° to 60°.

countries are for 1926, and are from *International Year Book of Agricultural Statistics*, p. xiii. The Ohio figure, 1925 crop land, is from *Census of Agriculture*, 1925, p. 7.

Japan proper includes the four large islands—Honshu, Shikoku, Kyushu, and Hokkaido. Other important islands are the Chishima, or Kurile, to the north, and the Riukiu, sometimes called the Lu-Chu, to the south.

The colonies include Taiwan (Formosa) off the coast of China; the southern half of the long island of Saghalien, called Karafuto, off the coast of Siberia; and the peninsula of Chosen and adjacent small islands to the number of 1,018. Taiwan, 13,887 square miles, was ceded to Japan by China after the Chino-Japanese War, in 1895. As a result of the Russo-Japanese War, Japan, in 1905, obtained Karafuto with an area of 13,929 square miles, and acquired a 99-year lease of Kwantung Province (which includes the South Manchuria Railway zone) 1,441 square miles in extent.³ It was at this time also that Japan acquired a foothold in Chosen, 85,229 square miles, which in 1910 was formally annexed as a part of the Japanese Empire. By the terms of the Versailles Peace Treaty, Japan acquired a mandate over the Marianne, the Pelew, the Caroline (including Yap), and the Marshall islands, formerly belonging to Germany. These islands, located north of the equator in the South Seas, have an area of 828 square miles.⁴

I. JAPAN PROPER

The range of high mountains which traverses the center of the Main Island divides the country into two principal parts—one sloping to the Pacific Ocean on

³ The so-called railway "zone" consists of "attached lands" of the railway, with varying types of land titles. The area is put up by the Japanese at 108 square miles. See Young, C. Walter, *Japanese Jurisdiction in the South Manchuria Railway Area*, 1931.

⁴ Data are from Japanese Government, Bureau of Statistics, *Statistical Annual*, 1928.

the east and known as Omote Nippon, or the front Japan; the other sloping westward to the Sea of Japan and called Ura Nippon, or the rear Japan. Notwithstanding the narrowness of the island, the mountains rise to a height of 12,086 feet (Fuji), and there are 18 important peaks more than 8,000 feet in height. As is well known, the mountainous topography of the Japanese islands and the peculiar geological formation of the surrounding ocean bottom have produced many active and inactive volcanoes and made Japan the victim of periodical earthquakes.

Since the mountain regions occupy the central and larger part of the Japanese islands, there are no great extensive plains such as are commonly found in continental countries. The mountain range which forms the backbone of the islands constitutes the watershed, from which start the principal rivers. As a rule the rivers are paired, descending from the Central Divide to the Sea of Japan and to the Pacific Ocean respectively. Because of the precipitate descent from the mountains, these rivers are suitable for navigation in their lower courses only, and then merely for small craft. On the other hand, the numerous waterfalls constitute an important source of electrical energy.

Japan has a remarkably long coast line in proportion to area, unequalled in fact even by that of Greece or Norway. Japan proper, including the adjacent islands, has a coast extension of 17,000 miles, giving a ratio of 1 mile of coast to every 8.5 square miles of area, as compared with a ratio of 1 to 13 for Great Britain. The regions washed by the China Sea, the inland Sea of Japan, and the Pacific Ocean are especially rich in indentations, which from the earliest times promoted the development of shipping and inter-

course with other oriental countries.⁵ The seas surrounding the island not only furnish convenient highways for international commerce, but, being traversed by both warm and cold ocean currents, they abound in diverse aquatic, animal, and plant life.

The climate of Japan varies widely, being affected by the warm and cold ocean currents, as well as by the wide variations in latitude. Generally speaking, in Omote Nippon the influence of the warm current is more in evidence, while in Ura Nippon the colder current exerts a predominant influence. Owing to the ocean currents, seasonal winds, and mountain ranges, the climate of Japan is in general colder in winter and warmer in summer than is that of European countries in the same latitude. On the other hand, it is much milder than in regions of the same latitude on the continent of Asia.

The Riukiu Islands are tropical, the average temperature through the year being over 68° Fahrenheit (centigrade 20°). The central islands are situated in the temperate zone and the climate is generally mild and suitable for outdoor work throughout the year. The annual average temperature at Kyoto and Tokyo is about 56.5° Fahrenheit (C. 13.6°). In the Ura Nippon districts the temperature resembles that of the adjoining continent, being severe in winter, with heavy snowfall, and hot in summer. The northern regions, including Hokkaido and Chishima, have very severe winters and are characterized by arctic flora, the yearly average temperature of Hokkaido ranging from 33° to 48° Fahrenheit (C. 0.6° to 8.9°).

Japan proper has four seasons of approximately equal duration. Winter extends from the middle of December to the middle of March, spring to the middle

^{5, 6} The Japanese isolation policy covered, as we have seen, only the period from about 1600 to 1850.

of June; summer to the middle of September; and autumn to the middle of December. In the summer season the island is visited by southwesterly winds from the Indian Ocean, which produce the rainy season, known as *Nyubai*. The annual average precipitation at Tokyo on the east coast is 61.8 inches, while at Kanazawa on the Japan Sea it is 100.8 inches.⁶ These figures may be compared with 42.2 inches at New York, 33.9 inches at Seattle, and 25.1 inches at London. It is because of the high temperature and copious rainfall that rice has always been so universally cultivated. The abundance of rainfall also produces a luxurious growth of plants and trees, forests occupying more than half of the entire land area of the country.

Japan possesses coal and copper in comparative abundance, but only limited quantities of other mineral resources. The detailed data with reference to mineral resources and the extractive industries generally are reserved for Chapter IV.

II. THE COLONIES

1. *Taiwan (Formosa)*. This large island, lying at the southwestern extremity of the Empire, is extremely mountainous, only about one-third of the area consisting of fertile plains. In the range of mountains which extends along the eastern coast there are as many as 48 peaks which rise to an elevation of more than 10,000 feet above sea level, the highest, Niitaka, reaching 12,580 feet. The climate is tropical, the average summer temperature being about 80° Fahrenheit (C. 26.7°). At Keelung the annual average is 70.7° Fahrenheit (C. 21.5°).

The tropical climate and abundant rainfall are responsible for luxuriant forests and for excellent yields of rice, sugar cane, sweet potatoes, and camphor. Other

⁶ *Japanese Yearbook*, 1929, p. 10.

staple crops are tea, peanuts, bananas, and pineapples. Mineral resources are not important, though there is an abundance of coal, and oil has recently been discovered. Except for sugar there is no manufacturing of importance. The population in 1930 was approximately 4,594,000.

With the economic aid received from Japan, including the construction of 608 miles of railway lines, this mountainous and undeveloped island has undergone a remarkable development during the generation since it was acquired from China. Discussion of the financial and trade situation of Taiwan and the other colonies in relation to Japan proper will be found in subsequent chapters.

2. *Karafuto*. The long island lying north of Hokkaido, known as Saghalien when under Russian possession, is now divided into two sections along the fiftieth parallel, the southern half being given the Japanese name of *Karafuto*. A mountain range extends the length of the island, but the highest peak is only 4,000 feet. Owing to the northern latitude and proximity to the Siberian mainland, the climate is severe, winter temperature as low as 30° below zero, Fahrenheit, being not uncommon, and the average yearly temperature ranging from 32° to 39° Fahrenheit (C. 0.0° to 4°).

The island is rich in coniferous forests, which form the basis of an important wood pulp industry. Deposits of coal are estimated at 500,000,000 tons, but as yet this fuel is mined only for local uses. The oil resources of *Karafuto* are still undetermined. The Japanese government has, however, recently obtained from Russia concessions to the oil fields of the northern half of the island—Saghalien. Next to forest products, fishing is the most important industry, the island being

situated close to one of the three greatest fishing grounds of the world.

The land is typically rolling in character and is comparatively fertile. The principal agricultural products are wheat and oats, the output now slightly exceeding domestic requirements. It is believed that the soil is well adapted to the cultivation of beets and this island is therefore looked to as a potential future source of sugar. The population is very sparse, amounting in 1930 to only 295,000 or about 21 to the square mile, and consisting mainly of the aboriginal people called Ainu.

3. *Chosen (Korea)*. This mainland peninsula, opposite Kyushu, has an area equal to 58 per cent of the entire area of Japan proper, and in 1930 its population of 21,058,000 was equal to nearly one-third of that of the mother country. The great majority of the people are native Koreans.⁷ The southern coasts have many deflections, and the numerous adjacent islands help in forming a number of good harbors. The climate is severe in the north but mild in the south. There are two distinct seasons—a dry period lasting from October to March, with a rainy season during June, July, and August. Rivers are generally navigable, though subject to overflow in the rainy season. There are 1,586 miles of railway—the trunk line being connected at its southern terminus by ferry with the trunk line of Japan proper, and in the north with the South Manchurian Railway.

Agriculture is the principal occupation of Chosen, approximately 80 per cent of the population being engaged in farming. The standard of living is extremely low, millet and inferior rice constituting the staple food of the people. Fishing is becoming an important industry; and mining is developing, the princi-

⁷ For Japanese population, see p. 395.

pal products being gold and silver, and in lesser degree iron and coal. The country has been denuded of forests, but under encouragement from the Japanese government, afforestation is slowly progressing.

With this brief sketch of the geography and the economic resources of the Japanese Empire before us, we may now turn to a consideration of the development of Japanese resources and the growth of economic institutions during the remarkable era which began with the overthrow of the old feudal régime and the introduction of occidental ideas and methods near the end of the third quarter of the nineteenth century.

PART II

ECONOMIC DEVELOPMENT

CHAPTER IV

UTILIZATION OF NATURAL RESOURCES

In this division of our study we shall endeavor to show how a country with a productive land area of only 23,000 square miles, about the size of the state of West Virginia, has been able to provide a living for upwards of 65,000,000 people. By what process of economic alchemy have the resources of nature been made to yield so abundantly? After setting forth in the present chapter the essential facts with reference to the utilization of the islands' natural resources—agriculture, forestry, mines, and fisheries—we shall consider the development of transportation and public utility enterprises; of industrial and commercial organization; of private and public financial institutions and agencies; and of international commercial and financial relations.

I. AGRICULTURE

From time immemorial, agriculture has been the "foundation of Japan's national existence." Even today, after 50 years of industrial and commercial development, the rural population still constitutes approximately 50 per cent of the total population,¹ and the country produces most of the food required.

The all-important agricultural product of Japan is rice. In fact the area devoted to the cultivation of this staple product in Japan proper is a little over 50 per

¹ The families engaged in agricultural pursuits comprise 49 per cent of the total families. The typical rural family is probably slightly larger than the urban family. A survey in 1926 of 187 representative rural families showed the average number of persons per family to be 6.7, of whom 3.9 were engaged in farm labor.

cent of the total cultivated land, while the value of the crop is usually over 60 per cent of the value of the principal farm products of the country. Next in importance to rice come wheat, barley, and naked barley. Other staple foodstuffs are millet, buckwheat, soy beans, red beans, and sweet and white potatoes. In the

AGRICULTURAL PRODUCTION IN JAPAN PROPER, 1928 ^a

(Acres and yen are in thousands)

Classification	Acres under Cultivation	Value of Crops
Food crops:		
Rice	7,822	1,633,008
Barley, wheat, etc.....	3,727	275,128
Other food crops.....	2,828	225,316
Special crops.....	583	117,166
Horticultural products:		
Fruits .....	...	81,083
Vegetables and flowers.....	1,272	256,106
Grass for fertilizer.....	1,043	31,093
Mulberry leaves.....	1,493	...
Tea	106	32,633
Total.....	18,873 ^b	2,651,536

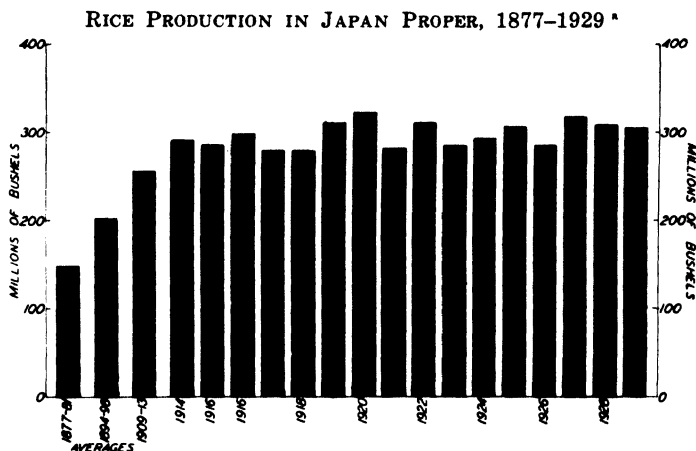
^a Japanese Government, Bureau of Statistics, *Statistical Annual*.

^b The total arable land of Japan proper amounts to 14,913,985 acres; the excess of cultivated area over a total arable area is explained by the utilization of land for between-season cultivations.

Japanese classification of *special crops* are included sugar cane, tobacco leaves, and rapeseed. Among the horticultural products may be mentioned oranges, persimmons, and pears. Mulberry leaves and tea are other important products of the soil. The table on this page shows the acreage devoted to the cultivation of these products in 1928, together with the value of the crop.

The salient facts with reference to the more important products of the soil are briefly set forth below. The acreage, production, and yield per acre of the principal field crops are shown in Tables 1-4, pages 542-45.

1. *Rice.* Favorable conditions for the cultivation of rice have resulted in making this cereal the principal agricultural commodity and the principal article of diet of the Japanese people. With the increase in population in recent years, great efforts have been made to



* See Table 2, p. 544, for data.

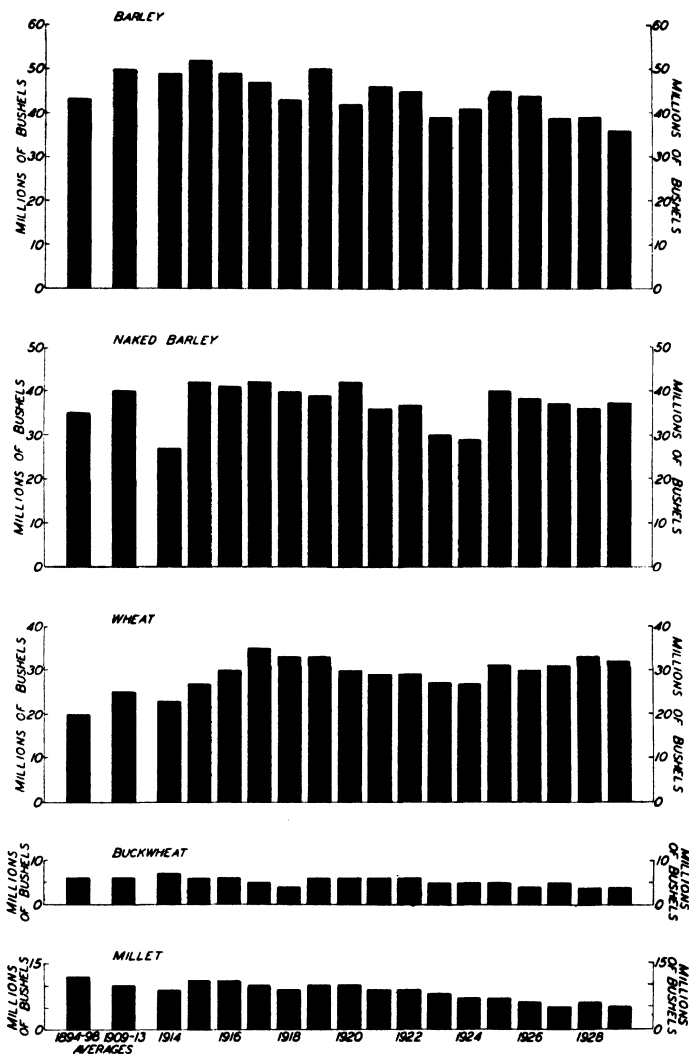
increase the acreage and the yield of rice. The acreage has been expanded since the period of 1909-1913 by about 7 per cent, and owing to improvement in methods of cultivation, the yield has increased by about 18 per cent and is now close to 40 bushels per acre. There has, however, been no increase in yield during the past ten years. The increase in the production of rice in Japan proper since 1877, the earliest date for which precise data are available, is shown by the diagram above.

Japan proper in 1929 produced 305,458,392 bushels of rice, while Chosen produced 69,170,574 bushels and Taiwan 33,022,766. Of these colonial crops, Chosen exported 28,313,988 bushels and Taiwan 11,118,147 bushels to Japan proper. During the same year 6,541,175 bushels were imported from other rice-producing countries. The problems of rice and other food imports will be more fully considered in Chapter XIII.

2. *Other grains.* Until comparatively recent years, barley and naked barley, and also millet, constituted very important items in the diet of the masses of the people. But with the rising standards of living brought by World War prosperity, rice has come to be more extensively used by all classes of people, even in country districts. In consequence, the acreage devoted to both barley and naked barley has been declining. During the three-year period 1927-1929, the area planted in barley averaged 23.8 per cent less than in the three-year period 1918-1920, while the output was 15.8 per cent smaller. The acreage devoted to naked barley during the same period decreased by 21.3 per cent, and the output by 8.1 per cent. Barley imports are negligible in quantity.

The wheat acreage is also decreasing, notwithstanding the protection afforded by customs duties. After the war the flour milling industry achieved so remarkable a development that large imports of foreign grains became necessary, and the market for the home-grown product appears to have been adversely affected. The average annual acreage in 1927-1929 was 11.6 per cent less than the average from 1918-1920. The total output, however, showed a slight increase, 0.4 per cent. The output of wheat is only about 25 per cent of that of Germany, which has approximately the same population as Japan proper. Japan's imports during the

PRODUCTION OF PRINCIPAL CEREALS IN JAPAN PROPER, 1894-1929 *



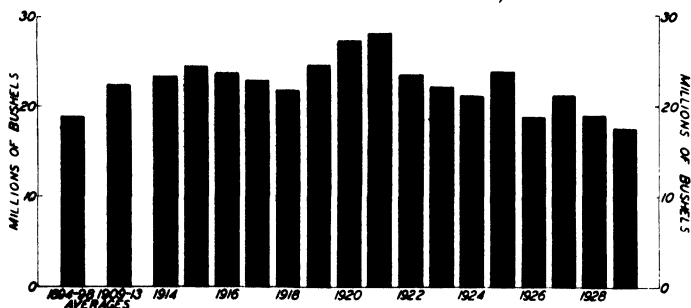
* See Table 1, p. 542, for data.

last three years amounted to 42 per cent of all wheat consumed.

The production of corn is very limited in quantity. Buckwheat is much more important, the amount produced annually being roughly one-fifth that of wheat. Production has, however, not increased since the nineties, and during the last few years has shown a slight decline. The diagrams on page 37 show the trend in the production of the principal cereals from 1894 through 1929.

3. *Miscellaneous food products.* After the cereals, the most important agricultural product of Japan is

PRODUCTION OF BEANS IN JAPAN PROPER, 1894-1929 *

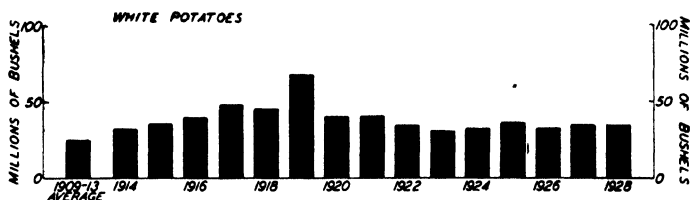
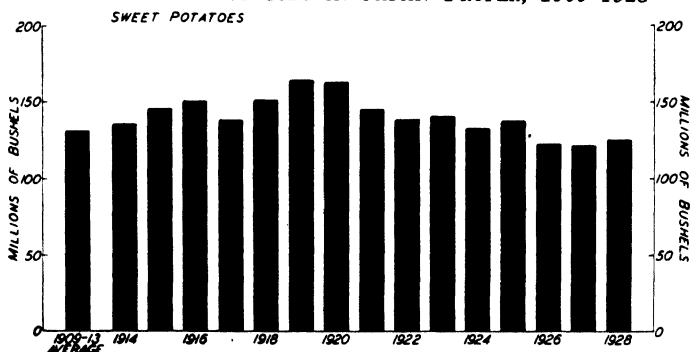


* See Table 3, p. 544, for data.

the soy bean. The red bean, or *azuki*, is also of considerable importance. The production of beans has, however, shown little increase since the nineties, and during the last few years has declined. The diagram on this page shows the production of soy and red beans for the period 1894-1929. The average acreage for the period 1926-1928 was 12.8 per cent less than during the three years 1918-1920, while the total output decreased by 22.8 per cent. The decline in this case is chiefly due to the competition of the Manchurian product. Imports of soy beans from foreign countries, particularly from Manchuria, have increased markedly

during recent years. Imports of the red bean have also increased several fold. Considerable quantities of soy beans are also procured from Chosen, though the volume of imports from that colony has shown no tendency to increase. There are no imports from Formosa.

PRODUCTION OF POTATOES IN JAPAN PROPER, 1909-1928 *



* See Table 4, p. 545, for data.

The production of both sweet and white potatoes increased steadily until 1919; but in recent years both the acreage and the total output have shown a substantial decline. No potatoes are imported either from foreign countries or from the colonies. The production of sweet potatoes in Taiwan is abundant, however, and is increasing. The diagrams on this page show the trend in the production in Japan proper of sweet and white potatoes from 1909 to 1928.

The production of cane sugar was fairly extensive in Japan during the Tokugawa shogunate. After the opening of the country to foreign trade, however, the competition of imported sugar produced a decline in sugar growing except in a few semi-tropical islands. The development of the industry in these islands from 1878 on, particularly in Okinawa, was stimulated by the government through the construction of a government factory and the establishment of a sugar research bureau. Production in these islands now amounts to approximately 90,000 tons a year.

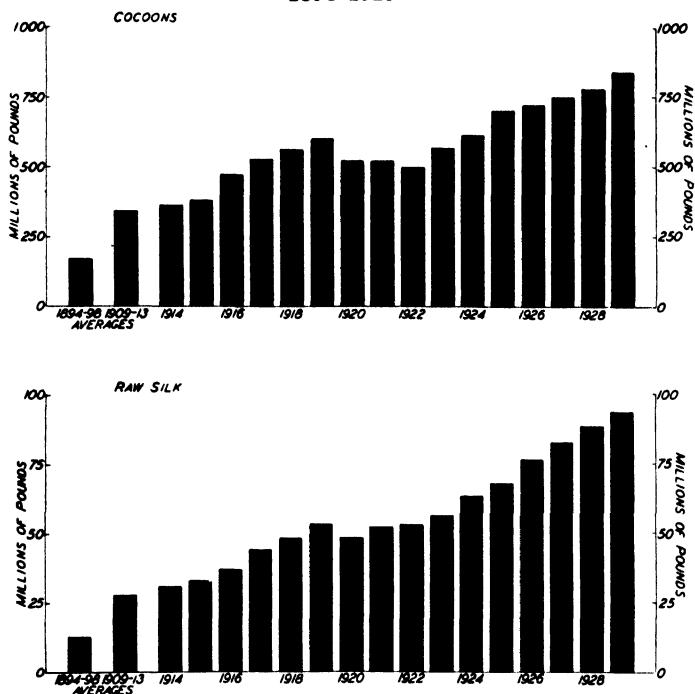
The cultivation of beet sugar has never been successful in Japan. Numerous government efforts for the promotion of the industry, beginning as early as 1872, failed, as did also a private enterprise which was undertaken in Hokkaido in 1890. With the rise of sugar prices during the World War, beet sugar production was again undertaken under private enterprise—in Hokkaido, Chosen, and South Manchuria. The world-wide depression of the sugar industry has, however, prevented any extensive development, the present output amounting to only about 13,000 tons a year. The primary explanation of the failure of the beet-sugar industry to develop is thus its relative unprofitableness.

Cane sugar was grown in Taiwan long before the annexation of the island by Japan in 1895. Its great development, however, is to be attributed to the systematic encouragement given by the Japanese government. In 1902, the government introduced a policy of protection for both home and colonial sugar, and liberal subsidies were granted to producers, thus encouraging the organization of many sugar companies in Taiwan. The output in 1898 was 90,411,330 pounds; in 1910, 450,273,554 pounds; in 1920, 492,091,604 pounds; and in 1928, 1,260,322,276 pounds. Sugar

is the principal article of export of the island, practically all of it going to Japan proper.

4. *Mulberry leaves.* The production of mulberry leaves for silk worm breeding is one of the greatest

PRODUCTION OF SILK COCOONS AND RAW SILK IN JAPAN PROPER,
1894-1929 ^a



^a See Table 5, p. 545, for data.

industries of the country, being the most important secondary occupation of the agricultural population. Sericulture has a very long history in Japan, having been introduced from China more than 1,000 years ago; but it was not until the country was opened for foreign trade and silk became readily exportable that this industry began its rapid expansion. The acreage

devoted to mulberry plantations during the three years 1927-1929 was 16.8 per cent greater than in the period 1918-1920 and amounted to 1,494,493 acres, representing 10 per cent of the arable land of Japan proper.

As a result of improved methods of breeding, the growth in the crop of cocoons is still more striking than the increase in acreage. Between 1912 and 1929 the total production more than doubled. Particularly noteworthy has been the increase in the so-called summer and autumn crops, the percentage of the total increasing from 42.3 to 50.4. The diagram on page 41 shows the increase in the output of cocoons and raw silk since 1894.

In Chosen, under the encouragement of the government, sericulture has also made remarkable progress. Mulberry plantations, which in 1912 covered an area of only 12,807 acres, expanded in the subsequent 16 years to 165,030 acres, and the production of cocoons increased thirteen-fold—from 2,433,896 to 31,921,159 pounds. While Taiwan has real possibilities for sericulture, the development of the industry has been unaccountably slow, the crop of cocoons amounting in 1928 to only 134,865 pounds.

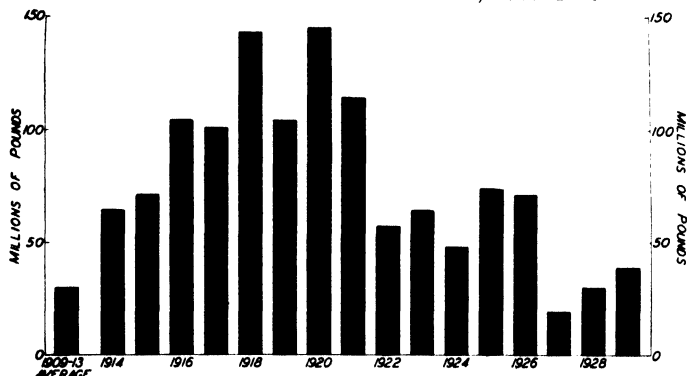
5. *Horticultural products.* Japan produces a considerable variety of fruits, the most important of which are mandarins, persimmons, pears and nashi, apples, peaches, and grapes. Since foreign competition is restricted because of the perishable quality of most horticultural products, domestic production has been steadily expanding. The output of all fruits in 1926-1928 was 57 per cent greater than in 1909-1913.

The production of certain types of vegetables has remained fairly stationary, while that of others has shown a substantial increase. Onions, cabbages, and tomatoes are of recent introduction, and the output is increasing rapidly. Taking vegetable production as a

whole, however, there was a decline in output of more than 6 per cent between the three years 1922–1924 and the years 1926–1928.

6. *Other products of the soil.* Up to the time of the Chino-Japanese War of 1894–1895, green tea was, next to silk, the most important Japanese export. Owing to the competition of Indian and Ceylon teas, however,

FLAX PRODUCTION IN JAPAN PROPER, 1909–1929 *



* See Table 6, p. 546, for data.

the export of this product has gradually declined, except for a brief period during the World War. Accompanying the decline of exports, there has been a decrease in the acreage devoted to the production of tea. In the period 1926–1928 the acreage was 10.7 per cent less than in the years 1918–1920, while the production had declined by 2.8 per cent. In Taiwan, however, the output of tea has practically doubled since the annexation of the island in 1895. The area devoted to tea production in Taiwan in 1928 was 114,259 acres, as compared with 105,782 acres in Japan proper.

The manufacture of tobacco is a government monopoly. During the Great War, both acreage and output declined considerably; but recovery occurred in post-war years and the acreage devoted to tobacco in 1928

was 3.9 per cent larger and the yield 11 per cent greater than in 1914. The production in that year amounted to 140,484,894 pounds.

Flax was not grown in Japan until a few years before the World War. After experimental cultivation in Hokkaido under government auspices had proved that the country was adapted to the production of flax, the cultivation of this fibre was steadily extended. The depression of the hemp industry in recent years has, however, been reflected in the output of flax. The diagram on page 43 shows the expansion of flax production since 1909.

Other special crops which were formerly of some importance but which the growth of foreign trade has rendered unprofitable are cotton and indigo, of which the production is now negligible. Rapeseed and hemp are also declining in importance.

7. *Livestock.* The raising of livestock has always been unimportant in Japan. The limited grazing areas, the excessive moisture, and the influence of Buddhism, with its taboo on meat diet, have been the contributing factors. In former years, therefore, the breeding of livestock was limited to such animals as were useful as beasts of burden, and even at present 77 per cent of the cattle and horses of the country are employed in farm labor. With the westernization of the mode of living and the consequent change in diet, particularly among the upper and middle classes, the demand for meat, milk, and other animal products is, however, expanding. The trend in the number of livestock is shown by the five-year averages given below.

	1894-1898	1909-1913	1924-1928
Horses	1,553,261	1,571,162	1,519,538
Cattle	1,164,408	1,385,563	1,467,852
Hogs .....	...	296,776	495,606
Sheep .....	...	3,351	17,851
Goats .....	...	94,022	181,707

The number of horses has remained practically stationary; the number of cattle has increased slowly; and the production of hogs has doubled since 1909-1913. While the production of sheep is increasing, the numbers are wholly insignificant. Although the woolen industry is growing rapidly, sheep breeding does not prosper even under government encouragement. Goat rearing is almost exclusively confined to the southern part of the country.

The production of meat has been slowly increasing, but in 1928 amounted to only 212,074,621 pounds, equivalent to a per capita production of a little over three pounds. Meat imports are also relatively small. The production of milk has increased slowly since 1905; but the total output in 1928 was only 39,140,390 gallons, or about 0.6 of a gallon per capita.

Poultry raising is another important subsidiary occupation of the farmers. Ducks, geese, and turkeys are few in number, but at the end of June, 1928, there were 24,600,000 hens and 21,490,000 chickens, with an annual production of eggs amounting to 2,248,000,000, valued at 86,343,800 yen. Owing to their importance in the Japanese diet, from 3,000,000 to 6,000,000 yen worth of eggs are imported annually from China. For purposes of comparison, it may be pointed out that Russia, with a population of over 130,000,000, consumed in 1903 only 1,154,000,000 eggs,² large quantities being exported.

In Taiwan, pork is an important food of the inhabitants, and hog production is expanding steadily, the number of hogs having increased from 1,281,000 in 1921 to 1,718,000 in 1928. The number of Taiwanese buffaloes and brown oxen has been decreasing slightly in recent years, numbering 387,000 at the end of 1928.

² Pelferoff, J. J.. *Russian Agriculture: Russia; Its Trade and Commerce*, p. 33 (1918).

The production of poultry has shown a small increase since 1921, the total number of domestic fowls at the end of 1928 being 5,904,000.

In Chosen, at the end of 1928, the number of livestock and of poultry was as follows: Cattle, 1,569,722; hogs, 1,277,816; hens, 6,135,950. All show a very substantial increase as compared with pre-war days; but the figures are very small in proportion to population as compared with those for Taiwan.

In Karafuto, in 1928, there were 3,685 cattle, 11,517 horses, 4,526 hogs, and 54,976 hens. Since the island is adapted to livestock raising, and the supply of oats is abundant, the development of the industry there is regarded as promising.

Other occupations of the agricultural community are fishing, weaving, and the making of floor mats, straw braids, chip braids, and straw, wood, and bamboo articles and implements. Owing to climatic conditions, there are practically no slack seasons for Japanese farmers, and, in consequence, there is little seasonal migration of labor to the industrial centers.

Japanese agriculture is conducted by highly intensive methods. Owing to the relative absence of level plains and the small size of the land plots, machines play a rôle of negligible importance, the bulk of the work being performed by horses, cattle, and human labor. The average land holding is only about 2.67 acres. Further discussion of the agricultural and food problem will be found in Chapter XVIII.

II. FORESTRY

Owing to a favorable climate, Japan is exceptionally rich in forest resources. While the forest area is naturally much smaller in the aggregate than that of such extensive countries as the United States, Canada, India,

and Russia, Japan ranks third among the nations of the world in the percentage of area that is in timber. Forests cover no less than 56.7 per cent of the area of the Empire, as compared with 57 per cent in Sweden, and 73 per cent in Finland. In addition, there are large areas of land known as plains or depleted forest territory which are capable of reforestation. The extent of these forests and denuded forest plains is shown by the following table.

FOREST LANDS AND DENUDED AREAS OF JAPANESE EMPIRE, 1927 *
(In thousands of acres)

Location	Forests	Denuded Plains	Percentage of Total Area in Forests
Japan Proper (excluding Hokkaido)	34,927	5,740	47.5
Hokkaido	13,293	2,154	60.8
Karafuto	5,994	392	67.2
Chosen	34,945	5,421	64.2
Taiwan	5,323	1,046	59.8
Total	94,482	14,753	56.7

* Japanese Department of Agriculture and Forestry, *Facts about Forestry*.

Because of the great distance over which the country extends from north to south, Japan is remarkably rich in varieties of trees. There are in fact no less than 1,500 different species, of which over 100 varieties produce useful wood. In addition, the bamboo, which is extensively used as a substitute for timber, is grown in all parts of Japan proper except Hokkaido, the bamboo product for 1928, including young shoots used as food material, being valued at 10,598,367 yen. The island of Taiwan also has an abundance of bamboo, the production now amounting in value to nearly 2,059,558 yen.

The following data are the government's estimates of the forest wealth of the Japanese Empire: In Japan proper, excluding Hokkaido, there are 41,079,000,000 cubic feet of timber, of which 22,494,000,000 are of the coniferous and 18,585,000,000 are of the broad-leaved variety of tree. Hokkaido has 22,335,000,000 cubic feet of timber, of which 7,900,000,000 and 14,435,000,000 are apportioned respectively to the coniferous and the broad-leaved varieties. The very rough estimates for the colonies show 6,116,000,000 cubic feet in Karafuto, and 19,292,000,000 cubic feet in Chosen and Taiwan combined.

As regards ownership, 50 per cent of the forests (excluding of course denuded areas) in Japan proper are private forests, 29 per cent state forests, and 17 per cent public forests (owned by state and local governments), while 3 per cent belong to the Imperial Household, and less than 1 per cent to temples and shrines. In Hokkaido and the colonies, state forests predominate. The state forests yield some revenue to the government. In the fiscal year 1928-29, for example, those of Japan proper yielded to the treasury about 42,874,000 yen, or 2.8 per cent of the total ordinary receipts. In Chosen, they yielded 3.8 per cent of the ordinary revenues, in Taiwan 3.5 per cent, and in Karafuto 45.8 per cent.

Owing to the peculiar construction of dwelling houses, firewood and charcoal rather than coal are still in general use in Japan for heating, cooking, and other household purposes, though in the larger towns the use of gas and electricity has been increasing rapidly in recent years. Since Japanese dwelling houses are practically always constructed of wood, the timber required for building purposes absorbs nearly half of the annual requirements. The timbers most used for construction purposes are the coniferous, in particular cryptomeria,

chamecyparis, and pine. In fact, about 80 per cent of the timber consumed is of the coniferous variety.

Among other important uses to which timber is devoted may be mentioned the making of crates, barrel staves, telegraph poles, railroad sleepers, and scantlings for shipbuilding and mine timbers. In 1928 the cuttings in Japan proper reached 496,000,000 cubic feet of standing timber, having a value of 118,901,000 yen. In addition, there was cut over 1,300,000,000 cubic feet of firewood with a value of 71,965,363 yen.

The demand for timber and wood in Japan is now considerably in excess of the annual production. Japan was formerly self-sufficient in regard to both fuel and timber, importation being limited to small quantities of certain special kinds of timber, like teak. Since the World War, however, the situation has shown a marked change. The great development of the paper industry (see Chapter VII) increased the demand for pulpwood; and the earthquake of 1923 created a very great demand for building materials, which could not be readily supplied at home (see Chapter XVI). As a result, Japan has in recent years imported from 90,000,000 to 110,000,000 cubic feet of timber annually, valued at approximately 100,000,000 yen. These imports equal about 20 per cent of the total requirements of Japan proper. Ninety per cent of the quantity of imported timber is of American and Canadian origin, consisting of Douglas fir, hemlock, cedar, and yellow cedar.

The enormous consumption of pulpwood by the paper manufacturing industries (see Chapter VII) has given rise to a real supply problem. Practically all of the pulpwood consumed in Japan proper comes from Hokkaido and Karafuto, where there is also large consumption by local establishments. In 1928 something like 79,000,000 cubic feet of pulpwood was consumed, of which 66 per cent was produced in Karafuto and 30 per

cent in Hokkaido. Recently, paper manufacturers have entered into an agreement with Soviet Russia whereby a concession has been obtained for the exploitation of forests in the Maritime Province. The development of the rayon industry in recent years has also created a fresh demand for pulpwood, which at present is being entirely imported from abroad.

A national forestry policy has recently been developed. In 1907 the government passed a forestry law which provides for the creation of protective forests for the purpose of preventing land slides, erosions, freshets, and avalanches, and for feeding water sources. Subsidies have been granted for the reforestation of denuded lands and for the care of public forests which protect the supply of water. In the matter of private forests the forestry law provides for the organization of forestry associations by groups of forest owners for the purpose of preventing timber depreciation, reforesting barren lands, and preserving the condition of the soil. In 1928, there were 884 of these associations, the members of which own 1,502,178 acres.

As a rule, state forests and those belonging to the Imperial Household are better managed and in finer condition than are the private and public forests. The latter still contain large areas of denuded land—nearly half of the entire area in the case of the public forests. Moreover, even where the land is still covered with trees, the timber often shows much deterioration, which is chiefly due to fires and insects, fire destruction accounting for about 85 per cent of the deterioration. The damage from these causes extends annually to an area of something like 300,000 acres. While real progress has been made in forestry control, much thus remains to be done. Reforestation is, moreover, as yet practiced only in Japan proper and Chosen.

III. FISHERIES

Although the land area of Japan proper is only about one-twentieth that of the United States proper, the coast line is over 17,000 miles long, as compared with 7,314 miles for the United States. The surrounding seas provide fishing grounds to the extent of 924,000 square miles—an area more than six times that of the country itself. In consequence of the existence of both cold and warm ocean currents, fish of all descriptions abound; the stretch from Hokkaido to the Maritime Province embracing one of the three richest fishing grounds of the world. In the warm current zone along the coast of the mainland are found sardines, bonitos, sea-brems, cuttlefish, yellowtails, mackerel, tunnies, whales, coral, oysters, and many other varieties of shell-fish. The principal products of the cold current zone are herrings, salmon, sea trout, codfish, sea-otters, fur-seals, and laminaria.

Japan ranks **first** among the nations of the world in fishing, her catches making up approximately one-fourth of the world supply. In 1927, the catch of Japan proper was 3,568,000 tons, while the output of Chosen and Karafuto raises this total to roughly 4,535,000 tons. This may be compared with a little over 1,000,000 tons annually for Great Britain and the United States and about 600,000 tons for Norway.

The populations of the coast districts either engage entirely in fishing or make this industry an important subsidiary to other occupations. In 1928 the number of fishermen was 1,498,258 and the number of fishing boats 360,126. During recent years, steam and motor-driven fishing vessels have been rapidly replacing the old rowing and sailing boats employed in what is known as inshore fishery. The yield of inshore catches over a period of years is shown in the table on page 52.

The development of Japan's deep-sea fisheries dates from 1898, when the Law for Encouragement of Deep-Sea Fishery was put into effect. The occasion for this law was a rapid increase in the number of foreign boats engaged in catching sea-otters, fur-seals, and other

VALUE OF INSHORE CATCHES IN JAPAN PROPER, 1909-1928 *
(In thousands of yen)

Period	Fish	Shell-fish	Other Aquatic Animals	Sea-weed	Total ^b
1909-1913 (Average) ..	64,905	3,357	10,280	4,334	82,824
1914.....	71,980	3,806	11,501	7,764	95,053
1915.....	73,723	4,090	9,877	7,144	94,836
1916.....	74,499	3,535	13,864	10,342	102,242
1917.....	92,721	4,942	15,141	10,428	123,233
1918.....	128,613	8,056	20,859	13,655	171,185
1919.....	195,025	12,040	26,908	12,858	246,833
1920.....	213,338	12,386	31,819	12,748	270,294
1921.....	202,530	12,663	30,890	12,141	258,226
1922.....	179,543	10,269	31,543	11,529	232,886
1923.....	182,436	9,408	44,019	11,546	247,411
1924.....	191,863	10,681	36,228	12,402	251,175
1925.....	190,178	12,655	39,637	11,532	254,003
1926.....	171,839	11,823	30,580	11,108	225,352
1927.....	166,005	11,001	30,232	21,899	229,138
1928.....	156,560	12,112	28,930	11,660	209,264

* Japanese government, *Statistics of Department of Agriculture and Forestry*.

^b These totals do not precisely equal the sum of the items since the hundreds digits were ignored in the original data.

marine products in Japanese waters. The payment of subsidies to owners of boats engaged in deep-sea fishery was provided for; and later the subsidies were extended to vessels transporting deep-sea catches and to new boats equipped for deep-sea fishing. Under this stimulus, a considerable number of steam trawlers, whalers, and motor fishing boats have been constructed,

and the fishing operations of the Japanese now extend to the Arctic, the South Seas, and other distant fishing grounds.

By the Treaty of Portsmouth, Russia ceded to Japan the right of fishing along the Russian coasts of the Sea of Japan, the Sea of Okhotsk, and the Bering Sea; and by the Russo-Japanese Fishery Agreement, which followed the Portsmouth Treaty, this concession was established. It was renewed in May, 1928. In 1928 there were as many as 380 Japanese boats fishing in these waters and the value of the catches of salmon, sea trout, crabs, etc., reached 46,000,000 yen.

An important development since the World War has been the packing in floating canneries of crabs captured in open seas. During 1929 as many as 16 floating canneries were in operation, the output of which amounted to 348,359 cases each containing 48 pounds of crab meat, representing about 70 per cent of the canned crab products of all the northern seas. The exports of these products to the United States, Hawaii, Australia, and Europe reach an annual value of more than 16,000,000 yen. Since the supply of crabs in Kamchatkan waters has shown signs of decrease in recent years, the government each year sets a maximum production limit. Competition is becoming serious, as Soviet Russia increased the number of its floating canneries from four to nine in the year 1929-30.

In 1928 there were 8,090 boats engaged in deep-sea fishing near the mainland, of which 7,584 were motor or steam propelled. The value of the catches during that year was 80,871,000 yen. Steam trawlers were first introduced in 1905, and in the following seven years 139 were constructed. The excessive catches served so to depress prices that the law now limits the

maximum number of trawlers to 70. The catches made by trawlers in 1928 were valued at 10,158,000 yen.

The first steam whalers were put into operation in Japanese waters in 1899. Within ten years the number had reached 28 and it became necessary in the interests of protecting the breeding of whales to limit the growth of the industry. In 1909 the government accordingly enacted a law limiting the maximum number of whaling vessels to 30. In 1928 the number in operation was 29. The catch in that year numbered 1,118 whales valued at 1,453,000 yen.

The piscicultural industries, which include artificial breeding of fish in rivers, lakes, and bays, transplanting from one water to another, and the hatching of spawn and the rearing of fry, have shown a marked development in recent years, both quantitatively and qualitatively. The principal varieties of fish chosen for these purposes are carp, eels, mullets, goldfish, trout, and oysters. In 1928 there were 141,114 fish farms. The art of preserving aquatic products has also made considerable advance in recent years.

Chosen and Karafuto also have important aquatic products, the 1928 value of marine products in the former being 66,114,000 yen, and in the latter 20,557,000 yen. Fishing in Taiwan is, however, still in an infant stage.

As one of the most important industries in Japan, fishing is given encouragement by the government in a variety of ways. The law for the encouragement of fishing in the deep seas has already been referred to. Under the fishery law passed in 1901, extensive regulations for governing the industry have been laid down, and by this act a fishery right is regarded as a property right which gives fishing privileges on a fixed section of the public waters as licensed by the government. In 1921 the Marine Products Societies Law was enacted,

under which public corporations or societies are organized for the improvement and development of the industry by means of prize shows and exhibitions, mutual systems of relief, market research, etc. By April, 1930, there were 340 local societies, 43 prefectural, and one Imperial. In addition to the subsidies already mentioned, the government annually disburses large sums for the reconstruction of landing ports, the maintaining of cold storage, and the aiding of fishery institutions and marine product societies.

IV. MINERAL RESOURCES

Mining and metallurgical operations in Japan date back to ancient times, but it was not until the Tokugawa régime (1603–1868) that this industry made noteworthy development, most of the important coal, copper, and silver mines now in operation being started during this period. With the growth of industry and commerce during the modern era, mining activities have been greatly expanded. At the present time most of the principal mines are controlled and operated by large joint stock companies, the number of mining companies in 1928 being 339. It will be advantageous in discussing mineral resources to consider Japan proper and the colonies separately.

A. Japan Proper

While Japan possesses a wide variety of mineral products, only coal and copper are really important. Coal accounted for 67 per cent of the value of mineral output in 1928, and copper for 14 per cent. Even in the case of these two sub-soil resources, however, imports slightly exceed exports. Mineral resources may be conveniently divided into three classes: (1) metals, (2) ores, and (3) non-metallic minerals. The relative im-

portance of the various types of minerals produced in Japan proper is shown by the following table.

A brief statement is presented below with reference to each of the individual mineral resources comprised

MINERAL PRODUCTION IN JAPAN PROPER, 1928 ^a

Mineral	Production Unit	Quantity Produced	Value (In yen)
METALS			85,183,170
Gold	Troy ounce	334,060	14,685,045
Silver	" "	5,144,857	6,516,019
Copper	Pound	150,427,311	55,271,862
Lead	"	8,053,176	847,552
Tin	"	1,641,558	1,523,087
Zinc	"	42,145,546	6,339,605
ORES			8,453,063 ^b
Iron ore	Metric ton	157,706	...
Manganese ore	" "	17,692	424,658
Sulphur ore	" "	13,319	110,475
Iron pyrites	" "	593,954	7,888,286
Scheelite	" "	50	29,644
NON-METALS			273,368,450
Coal	Metric ton	33,860,181	254,516,131
Lignite	" "	147,730	904,956
Sulphur	" "	70,063	4,095,521
Phosphorite	" "	58,776	906,241
Crude oil	Gallon	77,221,350	12,945,601

^a Japanese Department of Commerce and Industry, Mining Bureau, *The Trend of Mining Industry in Japan*, and *Manual of Iron Industry*.

^b Exclusive of iron ores for which value figures are not obtainable, as the product is usually converted directly into pig iron by the producer.

in the above classes; and for each group a diagram is given to show the trend of production over a period of years.

1. METALS

a. Gold. From ancient times until comparatively recent years, gold was obtained in Japan by the placer mining process, but at present it is almost entirely

derived from vein operations. Domestic production scarcely suffices to meet industrial and art purposes; hence, to meet the monetary requirements, Japan has been a substantial importer of gold. The aggregate gold production of Japan, including the colonies, from 1894 to 1928 was 384,247,000 yen, and the net imports amounted to 1,050,738,000 yen.³ The trend of production of gold in Japan proper is shown in the diagram on page 59.

b. Silver. The extraction of the white metal began in Japan more than a thousand years ago, the first silver and copper coins having been minted in the eighth century A. D. It is found in many parts of the islands. Since silver is chiefly extracted from copper ore, the output varies directly with that of copper. During the war period, when the production of copper was stimulated by the prices which prevailed, the output of silver greatly increased, reaching in 1917 a total of 7,112,000 ounces, as compared with only 5,145,000 ounces in 1928. As in the case of gold, silver production has been insufficient for the country's requirements, the total net imports of the Empire from 1894 to 1928 equalling 7,516,000 yen.⁴ For the trend of production, see the diagram on page 59.

c. Copper. This is the only metal in the production of which Japan holds an important place among the nations of the world. For a considerable time prior to 1923, Japan ranked third in the production of copper; but in recent years Canada and the Belgian Congo have forged ahead, and Mexican production in 1928 was approximately equal to that of Japan. The output in Peru has also been rapidly increasing. Of the total

³ For detailed figures of the imports and exports of gold, see Appendix A, p. 538, and for the gold holdings of the country at the present time see *ibid.*, p. 539.

⁴ For detailed import figures, see Appendix A, p. 538.

world production in 1928, 49.7 per cent was produced in the United States; 17 per cent in Chile; and 3.9 per cent in Japan.

The trend of production has followed closely that of the world as a whole; rising markedly during the World War, declining sharply in the post-war depression, recovering slightly after 1924, but falling off again in the depression of 1929-30. (See diagram, page 59.)

Notwithstanding her comparatively abundant resources, Japan has imported much more copper in recent years than she has exported. The explanation is that foreign copper bears a lower price.

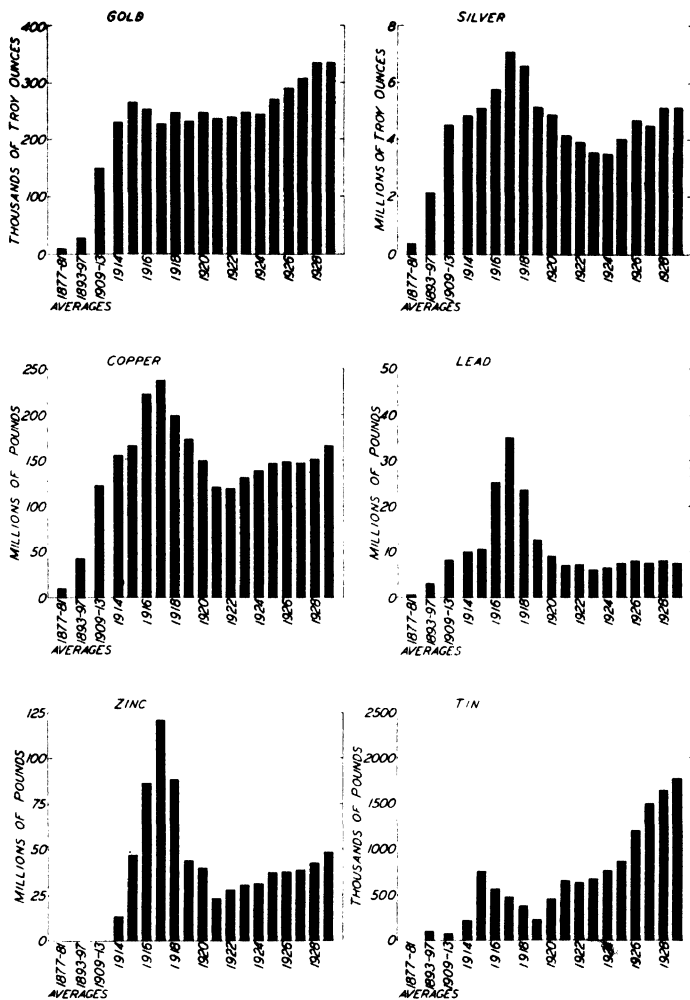
d. Lead and zinc. The production of lead was greatly expanded during the World War, but in recent years has been at about the pre-war level. The annual output has a value of approximately 1,066,000 yen, while the annual imports equal some 16,000,000 yen.

The production of zinc was negligible until the World War. While present production is considerably below that of the war-time peak, the average annual output from 1924 to 1928 was approximately 6,640,000 yen. Imports amounted in the same period to 12,800,000 yen annually. (See diagram, page 59.)

e. Tin and aluminum. The production of tin has been expanding in recent years, and the value of the annual output is around 1,390,000 yen. The annual imports are approximately 9,850,000 yen.

Extensive aluminum deposits were discovered in 1930, when it was found that the volcanic ashes of Saga Prefecture contain from 24 to 34 per cent of this important metal. A commission appointed to survey the prospects for the development of an aluminum industry has, however, reported that, because of the high cost of production, a high tariff would be required to give protection from foreign competition. The government opposes a high tariff because of the adverse

PRODUCTION OF METALS IN JAPAN PROPER, 1877-1929^a



^a See Table 7, p. 546, for data.

effects upon exports of aluminum products fabricated from imported material.

The diagrams on page 59, based on quantity figures, show the trend in the production of metals in Japan proper over a period of years.

2. ORES

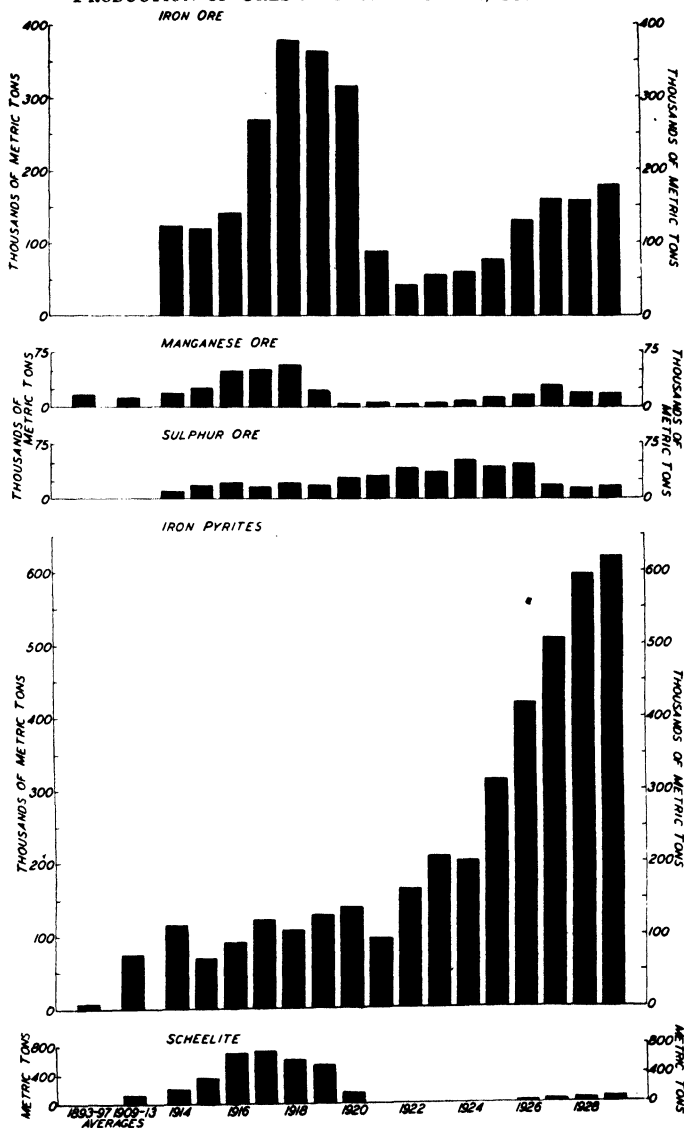
The only ores produced in Japan in any significant quantities, other than those of the metals discussed in the preceding section, are iron, manganese, scheelite, sulphur, and iron pyrites. Manganese ore is used in the preparation of alloy metal, while scheelite serves as the raw material for the manufacture of high grade tungsten steel. Both sulphur ore and iron pyrites are used in the preparation of sulphuric acid, which in turn is utilized in the reduction of phosphorite (phosphate rock) to superphosphate fertilizers. The diagrams on page 61 show the trend of production of these ores over a period of years.

The iron ore resources of Japan are quite inadequate to the nation's needs. The reserves have been estimated by the Imperial Geological Survey at 56,000,000 tons for Japan proper and 4,000,000 tons for Chosen. In 1928 the production in Japan proper equalled only 7.9 per cent of the total ores consumed. Only one-ninth of the imports came from the colonies, the great bulk being brought in from China and the Straits Settlements. There are extensive deposits of magnetic sand iron in northern Japan, but thus far the utilization of this iron has not been commercially feasible. Further discussion of the iron ore problem in relation to the iron and steel industry will be found in Chapter XXIV.

3. NON-METALLIC MINERALS

Among the non-metallic resources of Japan are coal and lignite, crude oil (petroleum), sulphur, salt, and phosphorite (phosphate rock).

PRODUCTION OF ORES IN JAPAN PROPER, 1893-1929 *



* See Table 8. n. 547. for data.

a. Coal and lignite. Japan's coal fields are widely distributed, the most important mining regions being in Hokkaido, Iwaki, and Kyushu, the mines of Kyushu producing more than half the annual supply. Some anthracite is found, but bituminous coal predominates, the reserve consisting chiefly of bituminous of a high to medium volatile type. Coking coal is limited, and most of that used is imported from China. The reserves of coal for Japan and Chosen have been estimated at about 8 billion metric tons, which figure may be compared with 191 million tons for Italy, 13 billion for France, 26 billion for Czechoslovakia, and 78 billion for British India. The coal reserves in Manchuria which are available for Japanese exploitation amount to only 1,208,000,000 tons.⁵ The increase in the production of coal and lignite over a period of years is shown in the diagram on page 65.

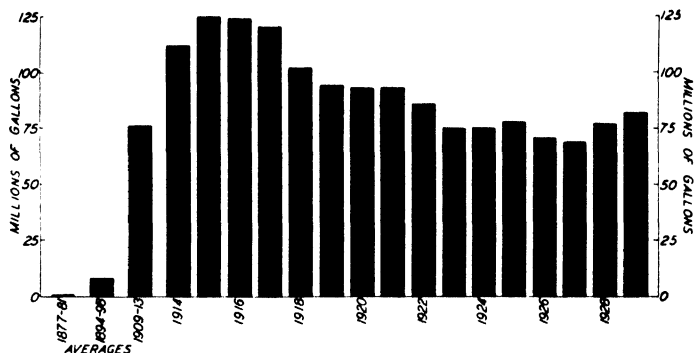
Notwithstanding the substantial coal resources of Japan proper, imports now exceed exports. In 1913, exports exceeded imports by 3,294,000 tons, but in 1928 imports exceeded exports by 584,499 tons. The increase in imports is attributed in part to the increasing demand for coal in Japan, resulting from the growth of industry and the rising price of wood and charcoal, and in part to the great advancement in mining methods in China which is rendering available at low prices a nearby source of supply.

b. Crude oil. The petroleum fields of Japan are distributed along a line which begins in the island of Karafuto and passes south through Hokkaido and Honshu along the coast of the Japan Sea. The bulk of the production is in the Echigo and Akita districts in the northwestern part of the Main Island. Known resources of petroleum were officially estimated in 1924 at about 56,000,000 barrels.

⁵ Bain, H. Foster, *Ores and Industry in the Far East*, p. 33.

Oil production by western methods of drilling began with the establishment of the Nippon Oil Company in 1888. This company is now responsible for 90 per cent of the total output. The peak year of production was 1915, when the output was stimulated by the war and by the adoption of the rotary process of drilling. The decline in output since the war has been in part due to the draining of wells and in part to the increasing competition of foreign crude oils which are now being imported in large quantities for refining pur-

PRODUCTION OF CRUDE OIL IN JAPAN PROPER, 1877-1929 ^a



^a See Table 9, p. 547, for data.

poses. In the hope of stimulating domestic production, the government, under a law of August, 1927, offered a subsidy for the prospecting of new oil fields. In 1925, moreover, a concession was obtained from Russia for the exploitation of oil fields in the northern half of the island of Saghalien, and work was begun in these fields the following year. The South Manchurian Railroad Company is also planning the extraction of oil by the distillation of shale, which is found in abundance in the adjacent Bujun Collieries.

From this brief account, it will be seen that the oil

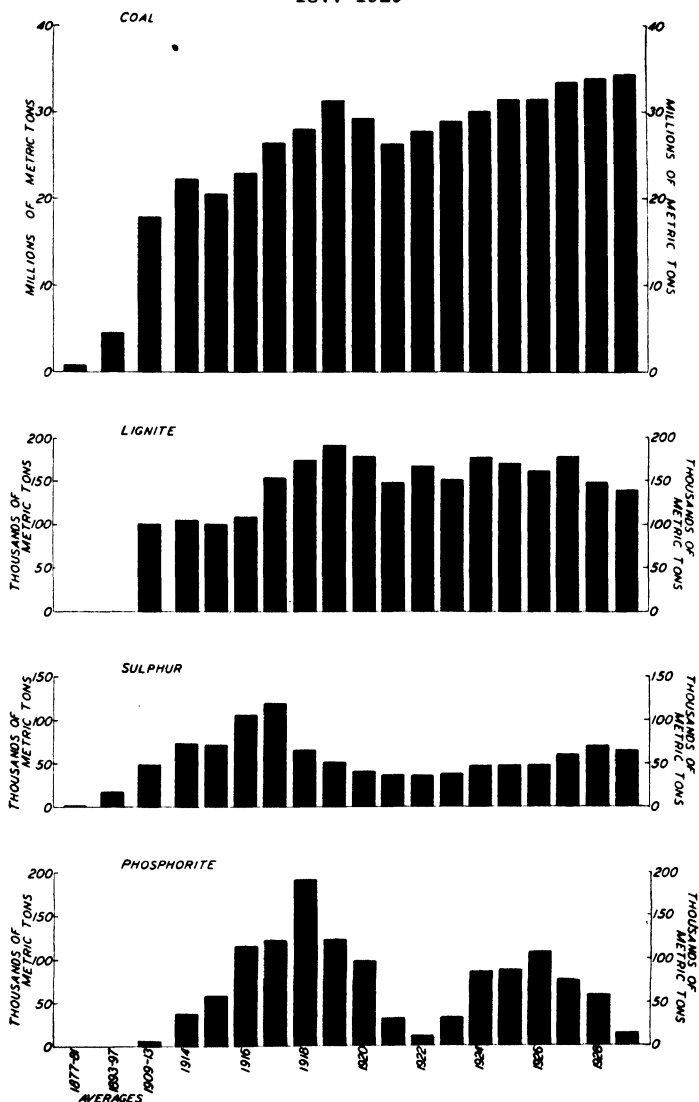
production and resources of Japan are altogether inadequate for the nation's requirements. The imports of crude oil in 1928 amounted to 380,554,900 gallons as compared with a domestic production of 77,216,393 gallons. The import figures moreover do not include the oil purchased abroad for fueling the Japanese navy, the amount of which probably exceeds the entire domestic consumption. The relative insignificance of the Japanese oil production may be gauged by the fact that in 1928 the total output, including that of Taiwan, was only 1,800,000 barrels, or about one-eighth of one per cent of the total world output. The diagram on page 63 shows the production of crude oil in Japan proper over a period of years.

c. Sulphur and salt. Sulphur has been produced in limited quantities for a great many years, and shows no great variation in either quantity or value. The domestic production is inadequate to the needs, sulphur imports in 1928, for example, amounting to 464,373 yen.

Salt is not mined in Japan but is derived from sea water. The annual production is only about half of the total consumption, the remainder being imported from China. Salt is a government monopoly, and all salt is purchased by the Monopoly Bureau, which sells the product to wholesalers for distribution throughout the country. This bureau has offices in various parts of the country, where stocks are held in readiness to meet demands at any time. Prices are maintained at a low and stable level.

d. Phosphorite (phosphate rock). It has already been noted that phosphorite serves as the base of raw material in the manufacture of phosphate fertilizer. Requirements of the fertilizer industry largely determine the annual production of this mineral.

PRODUCTION OF NON-METALLIC MINERALS IN JAPAN PROPER,
1877-1929 *



* See Table 10, p. 548, for data.

The diagram on page 65 shows the production of non-metallic minerals in Japan proper over a period of years.

B. The Colonies

The Japanese colonies are not particularly rich in mineral resources. In 1928, the total value of all minerals, including pig iron, produced in Chosen was 26,434,972 yen and in Taiwan 16,513,301 yen. The only mineral product in Karafuto is coal. The man-

ANNUAL AVERAGE MINERAL PRODUCTION IN CHOSSEN AND TAIWAN *
(By selected periods)

Mineral	Production Unit	Quantity Produced			
		Chosen		Taiwan	
		1910-13	1924-28	1909-13	1924-28
Gold	Troy ounce	141,414	170,348	50,035	10,004
Silver.....	" "	10,602	52,208	65,464	13,256
Copper.....	Pound	2,646	1,239,435	2,141,565	1,465,629
Lead.....	"	—	1,756,639	—	—
Sulphur.....	"	—	—	4,391,596	4,100,587
Zinc ore.....	Metric ton	—	820,000	—	—
Iron ore.....	" "	119,000	400,000	—	—

* Data are from *Statistical Annuals* of the Government-General of Chosen, and of the Government-General of Taiwan.

dated islands in the South Seas produce phosphate ore to an annual value of approximately 1,000,000 yen; and there is also a deposit of phosphate in Angour Island estimated to contain a reserve of 2,400,000 tons. The production of metals and ores in Chosen and Taiwan is shown by the table above.

The production of iron ore in Chosen has shown a marked increase since pre-war days, and the exports from this colony to Japan now exceed the volume produced in Japan proper. In 1928, the production in Japan amounted to 157,706 metric tons, as compared

with imports from Chosen amounting to 225,389 metric tons.

The colonies can produce considerable quantities of coal, but as yet they do not constitute a source of supply to the mother country. In 1928, the mines in Chosen produced 815,817 tons, as compared with 390,000 tons in 1914; yet during the same year Chosen imported 882,472 tons, in part from Japan proper and in part from abroad. Taiwan is also increasing its output of coal, producing 1,583,598 tons in 1928, a part of which is exported to China and the South Seas. Karafuto produced 539,481 tons in the same year, and there is a possibility of a substantial increase in the future.

Oil is found in Taiwan, but none has thus far been discovered in Chosen. The production in Taiwan has increased from 142,980 gallons in 1912 to 4,448,475 gallons in 1928, in which year it equalled 5.7 per cent of that of Japan proper.

It is clear from the foregoing account that the natural resources of the Japanese Empire are on the whole extremely meagre. The arable agricultural areas are very limited in extent, though the soil is exceptionally productive. While forest resources are extensive, they are not adequate to the nation's requirements. Only coal and copper among the important mineral products are found in comparative abundance. Fisheries, however, constitute a most important resource, furnishing a large amount of employment and providing a foodstuff of incalculable importance. The methods by which these limited resources have been utilized and developed for the support of 90,000,000 people is the story to which we now turn.

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CHAPTER V

THE DEVELOPMENT OF TRANSPORTATION

At the opening of the Meiji era, the transportation facilities of Japan were of the most meagre character. Highways were few in number and of primitive type; railroad and tramway lines were unknown; inland waterways, because of the mountainous topography, were navigable only for short distances; and, in consequence of the policy of national seclusion, there were no ships that could navigate the open seas. Only in small coastwise craft did Japan possess transportation facilities worthy of the name. In less than 50 years a comprehensive unified railroad system was developed, in the colonies as well as in Japan proper; steam, gas, or electric tramways were in operation in all the principal cities; and Japanese shipping lines encircled the globe. This chapter presents the salient facts in this remarkable development.

I. RAILWAYS

1. *Japan proper.* Railway development in Japan began some 40 years later than in the United States, Great Britain, and other western countries. The first railroad was constructed by the government in 1873 between Tokyo and Yokohama, a distance of a little over 17 miles. Topographical and other conditions led to the adoption of a gauge of 3 feet 6 inches as compared with the prevailing 4 feet 8.5 inches of western countries; and this narrow gauge has become universal in Japan. On the whole, passenger train schedules are comparatively slow, but a fast express was established on October 1, 1930 between Tokyo and Kobe, trains

maintaining an average speed of 41.5 miles per hour. Freight trains of 1,300 tons are common on level stretches of track.

Railroad construction has been carried out in part under government and in part under private auspices. As part of its general program of modernization, the Japanese government took the lead in the development of railroads, as indeed it did in many other lines of activity, but it was expected that after the initial stage further railway construction would be left to private enterprise. In the eighties private capital did in fact enter the field of railway development, and for nearly 20 years private lines increased much more rapidly than did those constructed by the government—3,283 miles of private lines being laid down between 1887 and 1905, as compared with 1,175 miles of government lines. Since 1906, however, private construction has been confined to local or "feeder" lines.

In Japan, as in many other countries, an agitation early arose in favor of the nationalization of the railroads. There were the usual controversies over the level of rates and discriminatory schedules; the existence of numerous private lines made co-ordinated control difficult; moreover many of the private lines were in financial difficulties. As early as 1898, the Tokyo and Kyoto Chambers of Commerce formally urged upon the government the desirability of railway nationalization. After thorough investigation, the government reached the conclusion that the placing of all railroad lines under a single control was necessary for the most efficient transportation service and for an eventual reduction of freight rates. The relation of railway development to military requirements was also a factor in the situation.

It was not, however, until 1906, the year after the Russo-Japanese War, that the Railway Nationaliza-

tion Law was enacted, under which all trunk lines were nationalized. In the two years 1906 and 1907 the government purchased 3,004 miles of private lines and equipment, of which 181 miles had not yet been opened to traffic, at a price of 479,320,000 yen.¹ The financial transaction involved the issue of government bonds to the owners of the private railway companies.

While the principle of government ownership of all trunk lines was thus established, local feeder lines were left in private hands and their future development was also left to private enterprise. By acts of 1910 and 1911, the government gives encouragement to the construction of "light railway" feeder lines. These laws, as amended in 1921, empower the government to subsidize a local railway for a ten-year period from the date it begins operations up to 5 per cent of the cost of construction in each year. In 1919 all private railroads of the country were placed under control of a new law pertaining to local railways, under which the above subsidies are continued. The government has reserved the right to purchase any local railroad at any time.

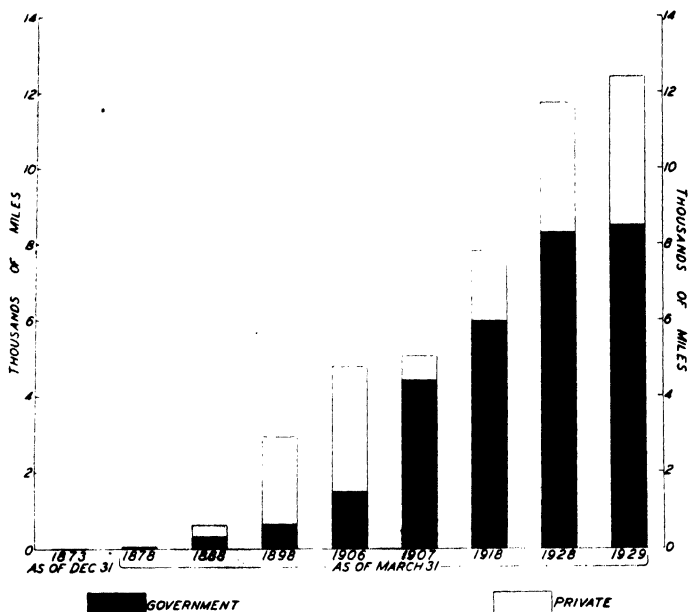
The growth of railway lines in Japan proper is shown by the diagram on page 71. The dates are selected to fit the foregoing discussion of the trend of government and private railway development. The length of railway lines in operation in 1928-29 was 12,198 miles, of which 8,509 miles were government lines and 3,689 miles local private lines. It will be observed that the increase in mileage of local private lines in recent years has been comparatively rapid. On the whole, the railway net is fairly extensive, the primary need for the future, as we shall see in a subsequent chapter, being the better co-ordination of

¹ Since some of these railway companies were engaged in the marine carrying trade as well, the government also purchased these interests, at a price of 2,650,000 yen.

railways with other developing transportation facilities.

The government railways and subsidiary enterprises are under the control of the Minister of Railways. Separate divisions of the Railways Department have

GROWTH OF RAILWAYS, JAPAN PROPER, 1873-1929 *



* See Table 11, p. 548, for data.

charge of traffic, construction, repairs, maintenance, and manufacture of rolling stock. The country is divided into six railway districts, each of which is under the jurisdiction of the Railway Bureau. For the connection of termini, the Railways Department operates ferry lines between Hokkaido and Karafuto, Hokkaido and Honshu, and also from Honshu to Chosen. Three smaller ferries connect with the lesser islands.

Railway finances are handled separately from the general treasury accounts of the government. The construction of new railroads and improvements on existing roads are provided for either out of earnings or by means of borrowed funds. On March 31, 1929, the balance sheet of the Imperial government railways showed total assets and liabilities of 3,110,155,000 yen. The borrowed capital amounted to 1,627,399,000 yen, of which 1,521,673,000 yen represented bond issues, and the remainder temporary short term obligations.

The private railroads showed total liabilities of 1,547,255,000 yen. Among the assets appears an item of 351,730,000 yen under the heading "construction expenses of other enterprises," chiefly electrical works, which would appear to make the railway assets proper only about 1,200,000,000 yen. It should be pointed out, however, that some of these expenses, and also of the "railway construction expenses," are joint in character; hence a precise figure of railway assets proper cannot be given. The outstanding debenture and mortgage indebtedness amounts to 262,037,384 yen, and temporary borrowings to 136,708,182 yen.

The financial condition of the railroads has been very satisfactory. The net earnings of the government roads have averaged close to 9 per cent on the capital; while those of the private lines have averaged about 7 per cent. The cost of new construction and improvements, however, regularly exceeds the profits; hence it is necessary to resort to the issue of bonds or temporary loans.² Inasmuch as the revenues have expanded in proportion to the improvement and extension of railroad lines, these borrowings must be regarded as productive in character. The operating condition of the

² The growth of the debt of the government railways is shown in Table 58, p. 588.

OPERATING CONDITION OF THE RAILWAYS OF
JAPAN PROPER, 1918-1929

(Amounts in thousands of yen)

I. Government Railways ^a

Fiscal Year	Passenger Receipts	Freight Receipts	Net Earnings	Net Earnings as a Percentage of Total Capital ^b
1917-18.....	87,017	90,595	99,155	8.9
1918-19.....	123,385	112,133	99,445	8.4
1919-20.....	166,607	135,013	107,115	8.4
1920-21.....	207,839	137,399	108,537	7.8
1921-22.....	219,228	171,135	178,949	11.6
1922-23.....	237,446	183,573	199,815	11.2
1923-24.....	255,284	181,182	182,112	9.2
1924-25.....	264,725	199,256	204,694	9.5
1925-26.....	268,222	204,434	221,011	9.5
1926-27.....	271,249	205,078	213,243	8.5
1927-28.....	278,952	220,285	224,456	8.3
1928-29.....	292,624	228,015	228,423	7.9

II. Privately Owned Railways ^c

1917-18.....	9,506	4,582	7,040	6.6
1918-19.....	12,566	6,504	8,211	7.7
1919-20.....	17,428	8,899	10,592	8.0
1920-21.....	22,113	10,170	13,129	9.5
1921-22.....	23,955	12,955	17,073	9.8
1922-23.....	27,576	14,856	19,463	9.6
1923-24.....	30,959	15,818	21,998	8.1
1924-25.....	34,878	18,207	25,718	8.1
1925-26.....	37,821	18,921	27,280	7.2
1926-27.....	42,098	20,687	30,961	7.1
1927-28.....	46,353	21,910	32,591	6.4
1928-29.....	52,093	22,882	36,400	6.1

^a Japanese Railways Department, *Statement of Condition of Government Railways*.

^b Computed on total capital ("capital proper" plus "borrowed capital") outstanding at the end of the preceding fiscal year, exclusive of investments in new lines not yet in operation. In the case of private railways investment in "other enterprises" is also excluded.

^c Japanese Government, Bureau of Statistics, *Statistical Annual*, and Japanese Railways Department, *Materials of Railway Statistics*.

roads over the past eleven years is shown by the table on page 73.

The operating ratio on the Japanese railways is exceedingly favorable. By the operating ratio is meant the ratio of operating expenses to total income, and the lower the ratio the more profitable the condition. The Japanese ratio in 1929, the highest it has ever been, was 52.7 per cent, and it is slowly increasing. This ratio of 52.7 may be compared with 71.9 per cent in the United States, 79.5 per cent in Great Britain, and 83.9 per cent in Germany. This favorable ratio is due to the extremely dense passenger traffic.

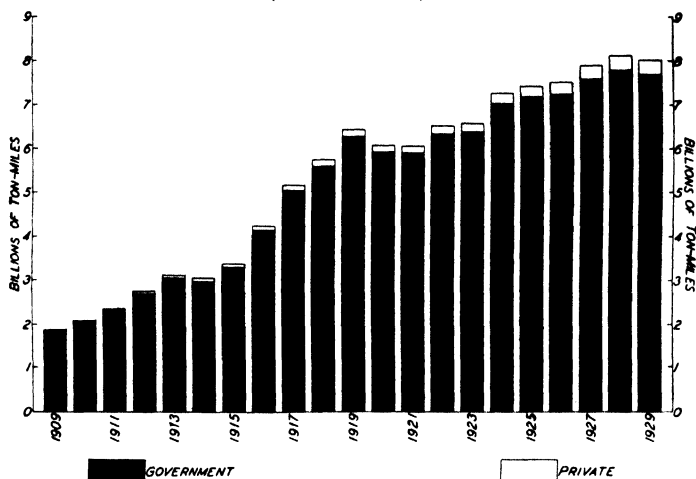
It will be seen that Japanese railways receive about three-fifths of their total revenue from passenger traffic; and moreover the percentage has been steadily increasing for some years. This condition presents a striking contrast to that in the United States and Great Britain, where respectively 14.57 and 36.65 per cent of the total revenue in 1928 was derived from passenger traffic, and where, moreover, the percentage derived from passenger traffic has been steadily declining. In Japan the entire population averages 16 train rides a year, while in the United States the average is but six rides per capita. On 250,000 miles of railway in the United States, 798,476,114 passengers were carried in 1928, while in Japan on 12,198 miles 1,213,578,000 passengers were carried. In the same year Great Britain's 20,388 miles of railway carried 1,666,384,976 passengers. These figures in all cases include the commuting traffic of the great metropolitan centers.

The steady, continuous growth of passenger traffic has been really remarkable. The number of passengers carried on the government and private railroads combined in 1917-18 was 319,490,000; by 1921-22 the number had increased to 576,565,000; in 1925-26 it stood at 917,412,000; and by 1928-29 it had mounted, as

already noted, to 1,213,578,000. Passenger fares average only 1.25 cents per mile, as compared with 2.85 cents in the United States, the low average being due to the extremely heavy third-class traffic, on which the rates, particularly the commutation rates, are very low.

The growth of freight traffic annually since 1909, the first year for which data are available, is shown by the following diagram.

GROWTH OF FREIGHT TRAFFIC, JAPAN PROPER, 1909-1929 *
(In thousands)



* See Table 12, p. 549, for data.

The electrification of government railways is steadily progressing. Electric trains are now running about Tokyo and vicinity, and the service is gradually being extended to trunk lines. Many of the private feeder railways also run electric cars. On the 3,575 miles of private roads in operation in 1928-29, as many as 1,089 miles had electric traction, and 653 miles steam and electric combined. In view of the extensive hydro-electric power resources of the country, electrification

of virtually all the roads appears to be only a matter of time, perhaps 20 years.

2. *The colonies.* The trunk lines of railways in Chosen are under the control of the colonial government, while the local or spur lines, as in Japan proper, are privately owned and operated. The number of miles of trunk lines in 1928-29 was 1,585, and the spur lines aggregated 516 miles. The gauge is 4 feet 8.5 inches. The capital of the government lines amounted to 348,388,239 yen, and of seven private roads to 75,977,455 yen. Profits amounted to about 3 per cent on the capital, the operating ratio being 80 per cent. The difference as compared with Japan proper is largely explained by the fact that passenger traffic in Chosen yielded only about 33 per cent of the total revenue.

The Chosen railroads make connections by ferry with those of Japan proper, though in consequence of the difference in gauge the rolling stock cannot be transferred. To the west they connect with the South Manchuria Railway by means of the Antung-Mukden line of the same gauge.

In Taiwan, the government operated 537 miles of trunk line in 1928-29 and also 71 miles of forest line—the gauge being as in Japan proper, 3 feet 6 inches. The line between Keelung and Taihoku is double track, and other double-track lines are in progress of completion. There are also 342 miles of private lines open to general traffic, and 997 miles of lines operated exclusively for the benefit of their owners, principally sugar companies. A feature of the transportation system of the island is the tramway system, 793 miles in length. The cars are propelled from behind by native coolies and carry both freight and passenger traffic.

There are, strictly speaking, no capital accounts for the state railways in either Taiwan or Karafuto. The

profits are, however, substantial and about 6,000,000 yen is expended annually on improvements. The operating ratio is very much better than in Chosen, being in 1928 as low as 50.2 per cent on the private railways and 56.8 per cent on the government lines. This excellent showing is attributable to the heavy passenger traffic, the average number of train rides per capita in 1928-29 being 5.19. Fifty-seven per cent of the revenues are derived from freight and 43 per cent from passenger traffic.

In Karafuto, there are 184 miles of railway belonging to the government, 118 miles privately owned, and 15 miles of tramways. The traffic is small and the operating ratio is accordingly extremely high. On the state railways in 1928 it was 102.7 per cent (resulting in a deficit) and on the private railroads 96 per cent. On the state railways 30 per cent and on the private railways 61 per cent of the revenue was derived from passenger traffic.

The government of Japan is the largest stockholder in the South Manchuria Railway, which was ceded to Japan by Russia as a result of the Russo-Japanese War. The trunk line of this railroad extends from the Port of Dairen to Changchun, and was formerly a branch of the Chinese Eastern Railway. Until 1907, this road was operated by the field railway of the Army; but in that year the South Manchuria Railway Company was organized to take over and operate the railroad, and also to administer affairs in the leased territory. The Antung-Mukden line, a branch of the South Manchuria Railway, was originally constructed by the Japanese Army during the Russo-Japanese War, but was afterward transferred to the South Manchuria Railway Company. Its gauge, which had originally been 2 feet 6 inches, was increased to 4 feet 8.5 inches to corre-

spond with that of the trunk lines.³ These two lines together with their feeders extend for 694.8 miles.⁴

II. TRAMWAYS

The first horse tramway in Japan was constructed in Tokyo in 1880, and within a few years they were found in most of the principal cities of the country. In 1890 an electric tramway experiment was conducted

TRAMWAY DEVELOPMENT, JAPAN PROPER, 1917-1928 *

Year	Electric		Motor (Including gas)		Horse	
	Mileage	Passengers Carried (In thousands)	Mileage	Passengers Carried (In thousands)	Mileage	Passengers Carried (In thousands)
1917....	695	831,726	296	11,010	304	5,381
1918....	720	966,161	306	12,399	244	4,506
1919....	732	1,211,147	303	10,594	251	4,742
1920....	785	1,258,296	283	9,125	251	4,183
1921....	846	1,381,857	284	10,029	234	3,351
1922....	882	1,536,368	307	11,564	210	3,348
1923....	941	1,548,504	296	11,132	231	3,179
1924....	995	1,698,876	315	11,282	219	2,839
1925....	1,059	1,701,620	332	10,970	185	2,093
1926....	1,145	1,725,372	342	11,530	181	1,141
1927....	1,182	1,787,918	367	11,324	112	827
1928....	1,253	1,862,641	301	8,687	102	624

* Japanese Government, Bureau of Statistics, *Statistical Annual*, and Japanese Railways Department, *Materials of Railway Statistics*.

in Tokyo; but it was not until 1895, in the city of Kyoto, that an electric street-car line was successfully operated. Since that time, electric trams have been gradu-

³ When under Russian control, the South Manchuria line had a gauge of 5 feet.

⁴ In the preparation of this section the author is especially indebted to Dr. Shinta Matsunawa, chief of the Research Office of the Japanese Government Railways, for criticisms and suggestions.

ally replacing both horse-drawn and steam and gas propelled tramways. Under the tramway law of 1921, the government or municipalities can at their option purchase the whole or any part of the tramways of the country.

In 1928, there were 156 tramways in existence, operating a total of 1,656 miles of line. Of this total, 1,253 miles were electric tramways, 301 miles steam and gas tramways, and 102 miles horse and other tramways. The growing and present dominant importance of the electric tram is indicated by the table on page 78.

Of the total passenger revenues, the electric trams in 1928 received more than 98.8 per cent. All classes of tramways carry freight as well as passengers. On the electric trams, the freight revenues in 1928 were about 1 per cent of the passenger revenues; on the steam and gas tramways which are found chiefly in interior communities, about 63 per cent; while on the horse tramways the freight receipts were a little more than double the passenger revenues.

III. OCEAN SHIPPING

In view of the insular position of Japan, one would naturally expect navigation of the high seas to have played an important part in the life of the Japanese people. The blighting influence of the policy of non-intercourse with foreign nations which characterized the Tokugawa régime is nowhere better manifested than in connection with shipping. The construction of large vessels capable of ocean voyages was prohibited under severe penalties, and as a result navigation was limited to the coast region about Tokyo and Osaka. It was not until 1854, a year after the visit of Commodore Perry from the United States, that this ban was re-

laxed. Although it was raised altogether shortly thereafter, even the coastwise steamship service was mainly supplied by British and American vessels, until well into the Meiji era.

The government has systematically endeavored to stimulate the development of Japanese shipping. In the early days of the Meiji era, ships produced in government shipyards or purchased abroad were transferred to private interests without compensation, or leased to private companies free of charge. Extensive subsidies were also granted for the construction of private vessels; but it was not until 1881 that the Osaka Iron Works was established as the first private shipyard in the country. From about this time on, the construction of steel boats made steady growth, and the government either sold its dockyards or leased them to private concerns. This chapter is, however, concerned rather with the development of shipping lines and services than with shipbuilding, which is discussed in the chapter on industrial development.

The growth of Japanese shipping during the seventies and early eighties was rapid and led to the virtual elimination of foreign steamers from the coastwise trade. In 1884, independent ship owners in Osaka combined to form the Osaka-Shosen-Kaisha (The Osaka Mercantile Steamship Company), and in the following year, the three leading shipping companies amalgamated in Nippon-Yusen-Kaisha (The Japan Mail Steamship Company).

The next stage in the development of Japanese shipping was the extension of steamship services from Yokohama overseas—to Shanghai, Chosen, and Vladivostok. The first transoceanic service was the Bombay Line established by the Nippon-Yusen-Kaisha in 1893. The war with China created such a great demand for shipping services for the transportation of munitions

and troops that the government purchased foreign vessels aggregating 30,000 tons, while private concerns purchased 150,000 tons of foreign shipping. By these means the tonnage was more than doubled in two years, increasing from 167,000 tons in 1894 to 363,000 in 1896.

The expansion of foreign commerce which accompanied the revival of world-wide prosperity following 1896 was attended by a phenomenal development of Japanese shipping. The Osaka-Shosen-Kaisha opened a service with the new island possession, Taiwan, and the Nippon-Yusen-Kaisha extended its lines to Europe, the United States, and Australia. Moreover, a new steamship company, the present Toyo-Kisen-Kaisha, was formed to open regular service on the Yangtze River, a right which had been granted by China.

During and following the Russo-Japanese War, 1904-1905, the Japanese mercantile marine grew still more rapidly. Foreign steamers were again purchased for war purposes by both government and private interests, over 307,000 tons being thus acquired. After the war, the three principal shipping companies extended their existing services and established new routes. Thus new lines to North and South America, and to the Indies, were established and existing ones were extended, and regular liner services were put into operation between Japan and Kwantung, Chosen, and Karafuto. In 1911, the Nanyo-Yusen-Kaisha was organized and a regular line of ships between Japan and the South Seas was established; while in 1912 the Chosen-Yusen-Kaisha was organized to engage in the coastwise trade of Chosen.

The World War enormously stimulated Japanese foreign trade and also the shipbuilding industry. The destruction of ships, coupled with the reduction of building operations in the shipyards of Europe, gave

a greater impetus to Japanese shipbuilding than to any other industry. The post-war era, however, has been one of continuous depression. The growth of the Japanese shipping industry is indicated by the table on this page, which gives the number and tonnage of vessels registered in Japan, including both those purchased abroad and those constructed in domestic shipyards. The years have been selected so as to reveal the periods of most rapid growth. Of the total tonnage of ships

VESSELS REGISTERED IN JAPAN PROPER IN SPECIFIED YEARS *

Year	20-99 Tons		100 Tons and Over		Total	
	Number	Tonnage	Number	Tonnage	Number	Tonnage
1894....	508	17,126	237	152,288	745	169,414
1896....	157	8,801	413	354,422	570	363,223
1903....	502	23,800	586	633,469	1,088	657,269
1905....	643	29,531	747	903,209	1,390	932,740
1913....	1,003	45,244	1,069	1,468,697	2,072	1,513,941
1919....	1,191	...	1,679	...	2,870	...
1928....	1,615	67,270	1,708	3,686,641	3,323	3,753,911
1929....	1,644	68,877	1,706	3,733,451	3,350	3,802,328

* Japanese Government, Bureau of Statistics, *Statistical Annual*; and Japanese Department of Communications, Shipping Bureau, *Annual Reports*.

registered in Japan proper only 67 per cent have been built in domestic shipyards.

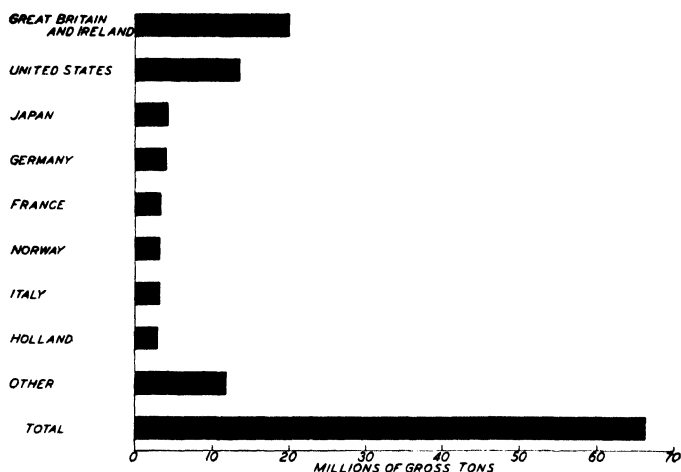
The comparative tonnage of the leading shipping nations is shown by the diagram on page 83.

The ratio of the three leading nations is 100 for Great Britain to 68 for the United States and 21 for Japan, which may be compared with the naval ratio of 5-5-3. Japan's effective tonnage position is somewhat overstated, in this comparison, however, by virtue of the fact that she has an unusual number of vessels more than 25 years of age, owing chiefly to the fact

that the foreign vessels purchased during the various wars were typically the older boats.

The bulk of Japanese foreign trade is now carried in Japanese bottoms. Before the Chino-Japanese War of 1894, Japanese vessels carried only 7 per cent of the nation's exports and 8.7 per cent of the imports. Ten years later Japanese ships carried 40 per cent of the country's exports and 34.4 per cent of the imports. By

WORLD TONNAGE OF STEAM AND MOTOR VESSELS, JUNE 30, 1929 *



* See Table 13, p. 549, for data.

1913 these figures had risen to 51.9 and 46.6 per cent respectively. In 1918, when Japanese tonnage had been greatly extended and foreign shipping, in consequence of the war, was relatively restricted, Japanese vessels carried 88.7 per cent of the exports and 87.1 per cent of the imports. In 1928, as much as 72 per cent of the exports and 63 per cent of the imports were carried in Japanese bottoms. Great Britain occupies a strong

second position in the carriage of Japanese goods, and the United States ranks third.⁵

For many years the control of Japanese shipping has been concentrated in the hands of a very few companies. Two large companies, the Nippon-Yusen-Kaisha and the Osaka-Shosen-Kaisha, now dominate the industry. The third important company of recent years, the Toyo-Kisen-Kaisha, in 1926 transferred its North and South American lines with eight liners to the Nippon-Yusen-Kaisha and became a tramp steamship company. There are as many as 211 small companies devoted primarily to freight transportation. The principal Japanese shipping routes are shown on the accompanying map.

Until well into the modern era the officers of Japanese ships were foreigners. It was not until nautical education in Japan was well advanced that Japan could furnish captains, mates, and high class mariners. As early as 1875, the Mitsubishi Nautical School was established with a government subsidy of 15,000 yen a year. This school, which was later taken over by the government and is now known as the Tokyo Nautical College, and another college in Kobe, provide training in navigation and engineering for officers of the higher grade. The first public nautical school was established in 1879 in Hakodate, and there are at present eleven such schools in the country. The training of common sailors is chiefly provided by the Seamen's Relief Association, established in 1880. In 1929, there were 71,762 men possessing certificates of competency as captains, mates, or engineers; and the foreigners included in this list numbered only 132, only one of whom was a captain. The total number of seamen at the present time is about 265,000.

⁵ Data were obtained from Japanese Department of Communications, *Annual Reports*.

Owing to the extensive broken coast lines, Japan has an extraordinary number of ports. In Japan proper there are as many as 758 trading ports, of which 38 are open to the ships of all countries. Most of them are found on the Pacific coast—Kobe and Yokohama being of dominant importance. The principal ports on the Japan Sea are Tsuruga, Niigata, and Fushiki, the first of which is connected with Vladivostok by a line of mail steamers. Chosen has eleven open ports; Taiwan has four; and there are two in the island of Karafuto.

Japanese shipping has not developed without continuous aid from the government. In the early days, as we have seen, the government furnished many ships to private enterprises free of cost. The policy of granting operating subsidies began as early as the seventies, though it was not until the passage of the Navigation Encouragement Law of 1896 that a general shipping policy was promulgated.

This law provided for a subsidy to ocean-going ships, payable according to speed, capacity, age, and the distance covered by their voyages. The ships eligible were iron or steel steamers with a capacity of over 1,000 tons, capable of covering not less than 10 knots per hour, built in Japan and owned by Japanese citizens, and not more than 15 years of age. This law was later revised to permit foreign-built ships, under certain conditions, to receive half the fixed rates of subsidy.

In 1909, the Ocean Service Subvention Law, still in force, superseded former legislation. Under this law, in order to be subsidized, ships must be owned by a company of which the partners or shareholders are all Japanese subjects, and which is engaged in the carrying trade on European, North and South American, or Australian routes, designated by the government. They must be steel steamships and motor ships, made in

Japan, and not more than 15 years of age; and they must have a capacity of not less than 3,000 tons, and a speed of not less than 12 knots an hour. The subsidy shall not extend beyond five years;⁶ and, as under the preceding law, the amount varies according to the distance of the run, tonnage, speed, and age. These subsidized steamers must carry mail free of charge. The government may also grant subsidies to other ships than those engaged in the transoceanic trades designated by the government. The subsidies now paid by the government of Japan proper amount to some 6,000,000 yen annually, while those of the several colonial governments run to nearly 4,000,000 yen. (For further discussion of subsidies, see Chapter XVII.)

Canal and river transportation in Japan has remained of negligible importance. The short and rapid streams render the development of internal water transportation impracticable. On the other hand, the coastwise traffic is extremely large, regular boat lines plying between all of the principal coastal cities.

The volume of coastwise traffic in the year 1928, for 178 ports in Japan proper, was as follows: Goods shipped, 46,989,756 tons; arrivals of goods, 60,935,108 tons. The total traffic, 107,925,000 tons, slightly exceeds that on the railways, which amounted to 103,204,000 tons. The comparison, however, favors the coastwise traffic by virtue of the fact that the trade with the colonies is included in the figures given.

IV. PUBLIC ROADS

The development of highways began during the Tokugawa era, a number of important roads being built with a view principally to military requirements. In 1873 a foreign engineer was employed to construct an experimental water-bound macadam road between

⁶ Except with the approval of the Imperial Diet.

Kyoto and the village of Otsu about eight miles distant. The first general regulation with reference to roads is found in a law of 1876, which adopted the classification of national, prefectural, town, and village roads and stipulated the width of the two former classes. Ten years later the character of the surface was officially prescribed. These regulations, however, were not very drastically enforced. The prevailing character of overland transportation prior to the Great War is indicated by the table given below.⁷

	1882	1897	1911
Horse-drawn carriages.....	1,920	4,089	8,832
Horse-drawn carts.....	2,623	82,507	171,989
Ox-carts.....	3,639	16,430	35,263
Goods wagons.....	397,371	1,222,471	1,726,955
Jinrikisha.....	166,584	200,690	143,803

From 1881 to 1900, the annual public expenditures on roads amounted to 7,000,000 yen, and from 1901 to 1916 to 21,000,000 yen. A new era of development in public roads began with the promulgation of the Highway Law in 1919, which established regulations as to width, gradient, curvature, and bridge construction for the various classes of roads. In 1920 the government authorized a loan of 282,800,000 yen to be spread over a 30-year period and to be used for the improvement of 4,880 miles of national roads, about 170 miles of military roads, and 890 miles of prefectural roads, as well as for the improvement of streets in the six largest municipalities of the country. One-half the cost of the national and military roads and one-third the cost of the prefectural and municipal roads are defrayed from the national treasury. Under this law there was expended in 1928 on national and prefectural roads the sum of 53,000,000 yen.

⁷ The data given in this section are from Japanese Department of Home Affairs, Public Works Bureau, *Civil Engineering in Japan*.

Despite the efforts that have been put forth, the road system of Japan is still primitive in character and inadequate for the nation's requirements. The total mileage for the different classes of roads at the end of 1927 was as follows:

	Mileage
National roads.....	5,118
Prefectural or provincial roads.....	55,498
Semi-provincial roads.....	2,170
Municipal roads.....	12,726
Town or village roads.....	512,546
Total.....	588,058

The importance of a systematic development, by new methods of construction, of the public road system of Japan, and its correlation with other transportation agencies will be discussed in Chapter XXIII.

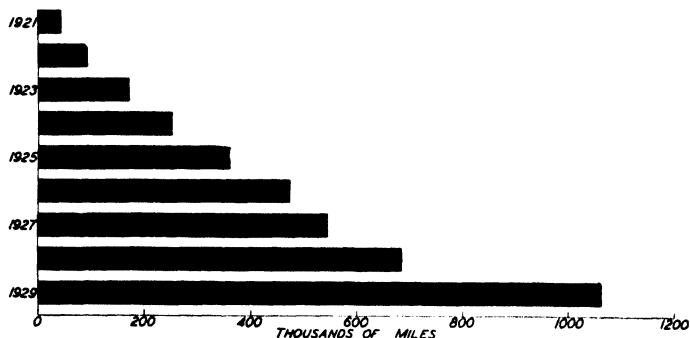
V. AIR TRANSPORTATION

A description of transportation facilities in these days would not be complete without reference to aviation. Japan has various sightseeing and regular passenger and mail air lines connecting the principal cities of the country. The regular (civilian) lines, in operation at the end of 1930, extended approximately 1,868 miles. The main lines extend from Tokyo to Dairen, 1,290 miles, Osaka to Matsuyama, 180 miles, Tokyo to Shimizu, 162 miles, Tokyo to Niigata, 236 miles. Between Tokyo and Osaka there are twelve trips each way per week, and between Osaka and Dairen, on the Asiatic mainland, there are six round trips each week. Plans have been made for regular service between Osaka and Shanghai, via Fukuoka in Kyushu, a distance of 900 miles.

The distance flown by civil planes in each year since 1921 is shown by the diagram on page 89.

In October, 1930, there were 21 civil flying fields and sea-plane landings (including practicing fields), 121 civilian planes, 281 licensed pilots, 107 navigators, and 51 aircraft engineers. While the majority of the civilian flying fields are small and poorly equipped, larger airports for international and other traffic are shortly to be completed at Tokyo, Osaka, and Fukuoka. A consolidation movement has been taking place in the avia-

MILES FLOWN ANNUALLY BY CIVILIAN PLANES, 1921-1929



tion industry of Japan as in other countries. In 1928 the Nippon Air Transport Company was organized for the purpose of absorbing the more important of the older companies; in October, 1930 it owned 47 out of a total of 121 civilian planes in the country. Since 1929 this company has received a subsidy from the government for an eleven-year period.⁸

The Japanese people appear to be quite as air-minded as those of any other country, and a steady development of the aviation industry is expected.

⁸ The data are from Japanese Department of Communications, Bureau of Aeronautics, *Manual on Aeronautics*, and from business reports of the Nippon Air Transport Company.

CHAPTER VI

PUBLIC UTILITIES

Under the category of public utilities we include gas and electric enterprises; the postal, telegraph, and telephone services, all of which, in Japan, are conducted by the government; and the recently created radio industry. Since these utilities have been of comparatively recent origin the world over, Japan did not here lag behind the Occident as in the case of transportation and industrial development.

I. GAS WORKS

The use of gas began in Yokohama in 1872, and in Tokyo in 1874. The industry, however, remained unimportant until after 1897, when incandescent gas lamps began to be imported. The demand for gas increased rapidly thereafter, and by the outbreak of the World War there were as many as 84 gas enterprises in Japan, including the municipal works.

The war caused a crisis in the gas industry of Japan as it did in the public utility enterprises of other countries. In return for franchise rights, gas companies had agreed with municipalities on certain schedules of rates, which could not be quickly modified when the costs of production advanced sharply as a result of the increase in wages and the prices of materials. Some 20 companies failed, and either liquidated or were amalgamated with other companies. Thanks to an increase in earnings from coke, ammonium sulphate, coal tar, and other by-products, the rest managed to survive the war crisis.

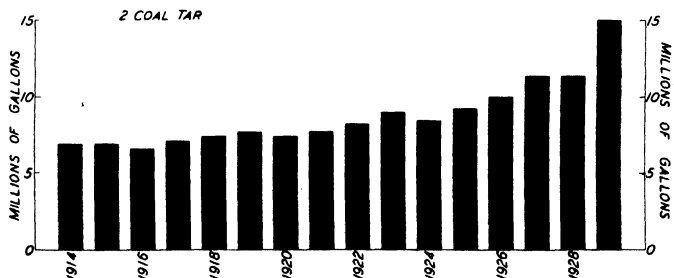
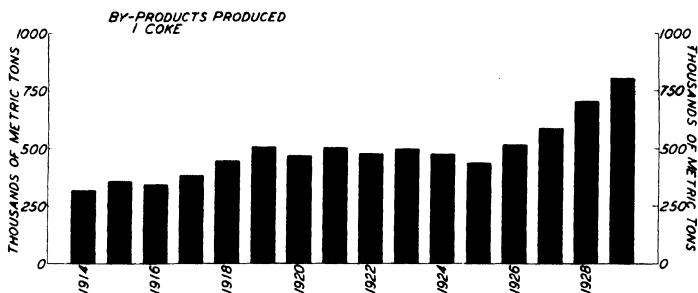
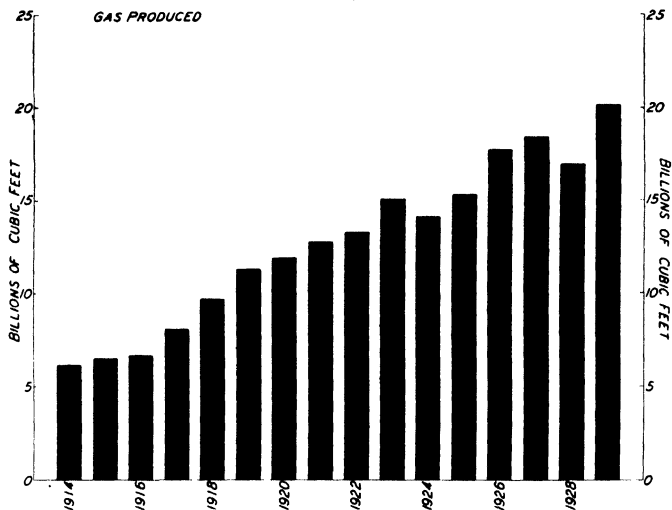
Since the war, owing chiefly to the declining price and the more efficient utilization of coal, the condition of the gas companies has greatly improved. In 1929 there were, including municipal works, 78 enterprises, having an aggregate invested capital of 318,797,501 yen. The growth of the industry from the year 1914 to the end of March, 1929, is shown in the diagram on page 92, which indicates the output of gas and of the by-products, coke and coal tar. The production, it will be observed, has shown a steady increase throughout the post-war period.

The use of gas for illumination and power purposes is rapidly declining. The consumption is largely confined to the important cities, and is insignificant in comparison with the amount used in the United States and in European countries. In 1914, there were 1,833,000 installations for illumination; in 1919, 1,329,000; and in 1926, only 609,000. The figures are now negligible and are combined with those for fuel. Power installations in 1914 amounted to 15,440 horse power; in 1919, to 17,413; and in 1929, to only 6,162 horse power. Since gas cannot rival electricity for illuminating purposes or as motor power, it is only a question of time until practically all of the gas consumed will be used as fuel.

II. ELECTRICAL ENTERPRISES

The first electric light company in Japan was established in Tokyo in 1887, the current being generated by steam. The industry grew slowly for a decade or so, but enjoyed a genuine boom after the Russo-Japanese War. During this first period, consumption of electric power was confined to illuminating and traction purposes, the first electric trolley being installed in Kyoto in 1895. The industrial expansion of the World War, however, created a great demand for elec-

GROWTH OF THE GAS INDUSTRY, JAPAN PROPER, 1914-1929 *



* See Table 14, p. 550, for data.

tric current for industrial purposes. Throughout the post-war period both household and industrial consumption has continued to expand rapidly.

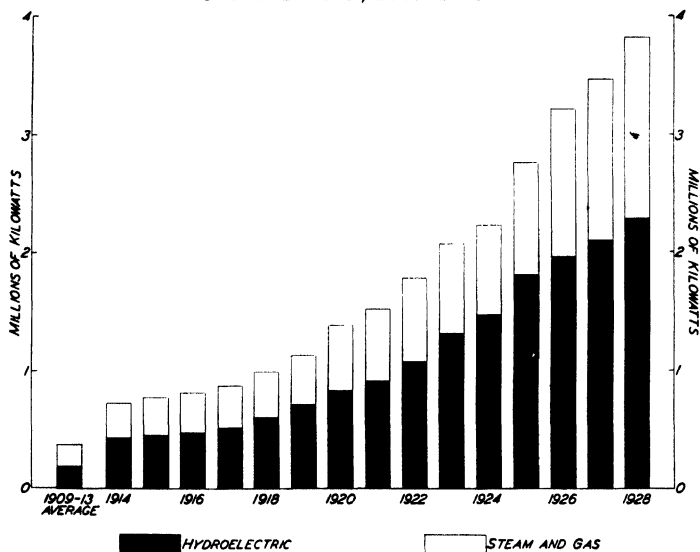
The use of electricity for illuminating purposes is now all but universal. Over 10,847,000 houses were supplied with electric light in 1928, the number of lights installed being over 33,909,000, or one light for every two persons. Between 1914 and 1928, the number of houses using electric light increased 300 per cent, and there was an increase of 384 per cent in the number of lights and 825 per cent in candle power.

Household consumption, other than for the purposes of illumination, is still negligible in amount. The slow growth in this direction is attributable chiefly to the fact that Japanese household methods are still traditional in character, and that household labor is abundant, usually involving no cash outlay. The operating economies are, therefore, not so important, while the cost of installing electric appliances is regarded as prohibitive.

Electrical energy will doubtless largely supersede other motive power in the not distant future. The aggregate horse power of electric motors in use in 1928 was 679 per cent greater than in 1914. These motors are now widely used in such industries as dyeing and weaving; machine, chemical, and foodstuff manufactures; and mining and metallurgical works. As previously noted, the electrification of tramways has been developing rapidly and the electrification of railways is making steady headway. The electrical companies are now also canvassing the possibilities of electrification for other than lighting purposes, particularly for threshing machines and irrigation works. The diagram on page 94 shows the growth of the electric power generating industry from 1909 through 1928—both hydroelectric and steam and gas.

The extraordinary increase in the consumption of electrical energy during the post-war period, and the projection of curves of growth forward for a decade or more resulted in an over-expansion of the industry. Since 1929 revision of development plans has been the order of the day. Moreover, numerous mergers have

INSTALLED ELECTRIC POWER PLANT CAPACITY IN
JAPAN PROPER, 1909-1928 *



* See Table 15, p. 550, for data.

been effected with a view to increasing stability and efficiency.

The growth of the electric power industry has been so rapid that special legislation was deemed necessary to facilitate the raising of the necessary capital. A general commercial code of Japan provides that the debentures issued by joint stock companies shall not exceed the amount of paid-up capital. Because of the

large amount of fixed capital required by the electric industry, the Electric Enterprise Law, passed in March, 1927, made an exception to this general rule and provided that electric companies might issue debentures up to double the paid-up capital under a license from the state if the proceeds were used for expanding

CAPITAL INVESTMENT IN ELECTRIC INDUSTRY, JAPAN PROPER,
1909-1928 ^a

(In thousands of yen)

Period	Paid-in Capital	Borrowed Capital		Total Capital
		Debentures	Loans	
1909-1913 (Average)	243,499	13,221	26,335	283,055
1914.....	460,355	35,705	62,992	559,052
1915.....	488,587	51,181	56,375	596,143
1916.....	513,839	54,251	56,221	624,311
1917.....	578,946	58,700	55,679	693,325
1918.....	646,513	55,962	77,424	779,899
1919.....	762,123	72,799	99,927	934,849
1920.....	949,409	74,213	119,564	1,143,186
1921.....	1,200,068	121,026	148,608	1,469,702
1922.....	1,507,949	187,177	228,147	1,923,273
1923.....	1,703,194	290,592	295,041	2,288,827
1924.....	2,012,204	488,136	272,190	2,772,530
1925.....	2,218,649	673,320	397,558	3,289,527
1926.....	2,453,587	765,815	460,464	3,679,866
1927.....	2,677,153	888,505	617,535	4,183,193
1928.....	2,868,716	1,286,761	531,998	4,687,475

^a Japanese Department of Communications, *Summary of Electric Industry*.

electrical equipment required by the public. The growth and the changes in the capital structure of the industry are shown in the table above.

During the period of rapid expansion up to 1929, operating profits were large, running from 10 to 12 per cent annually on the paid-in capital. Although hydro-generation was introduced into the country many years after steam generation, the former is now of

much greater importance. The abnormal rise in the price of coal during the World War greatly stimulated hydroelectric enterprise, and the momentum thus obtained has not been lost. The trend of development in Japan is in marked contrast with that in the United States, where in recent years the low price of coal, coupled with a great increase in the efficiency of its utilization, has rendered steam power, on the whole, cheaper than hydroelectric power.

In the actual output of hydroelectric energy and also in potential capacity Japan compares very favorably with other countries. The figures for developed and potential capacity, in thousands of horse power, for the principal producing countries in January, 1927, are as follows: ¹

	Potential	Developed
United States.....	35,000	11,721
Canada	18,250	4,556
France.....	5,400	2,000
Japan	4,500	1,750
Italy	3,800	2,300
Germany.....	2,000	1,100
Great Britain and Ireland ..	850	250

It will be seen that Japan ranks a good fourth in potential water-power resources and fifth in the extent to which these resources have been utilized. About 61 per cent of Japan's potential horse power remains to be developed.

III. COMMUNICATION SERVICES

The development of the postal, telegraph, and telephone business and of the accessory services, parcel post and postal money orders, has from the beginning been carried out by the government, rather than by private enterprise. These services are under the management of the Department of Communications, and

¹ World Power Conference, *Power Resources of the World*, 1929.

the receipts and expenditures are handled as a part of the government's general budget. As we shall see in Chapter XI they yield substantial net revenues to the government.

The postal service has shown a continuous growth, the number of offices increasing from 7,244 in the fiscal year 1913-14 to 9,393 in the fiscal year 1928-29. The number of pieces of mail handled during the same period has grown from 1,793,765,823 to 4,764,671,266—which amounts to 75 pieces per capita annually.

The growth of the telegraph and telephone services for selected fiscal years since 1913-14 is shown by the following table:²

	1913-14	1920-21	1928-29
Number of telegraph offices...	4,805	5,961	7,280
Miles of telegraph wires.....	111,876	135,576	200,691
Wireless telegrams handled...	56,276	236,719	624,183
Number of telephone offices...	2,430	4,475	5,190
Miles of telephone wires.....	490,823	867,164	2,797,305

The increase in the number of miles of telephone wires during this period has been much greater than the increase in the length of telegraph wires. The telephone service is, however, far from satisfactory; and serious proposals have recently been made for its transfer to private enterprise.

Cables connect Japan with China, Siberia, Manila, Guam, and the colonies. The only foreign cables are an American line which is grounded at Bonin Island, and two Danish lines which are grounded at Nagasaki. The United States is usually reached via Guam, while Europe, Southern Asia, and Australia are reached via Shanghai.

Radio broadcasting began in 1925 and has shown a steady growth, the number of receiving sets installed in

² Japanese Department of Communications, *Communications Statistics*.

1928 being in excess of 500,000. Stations have been established throughout Japan proper and the colonies. One is located in the most northern Kurile Island, one on the southern tip of Taiwan, and one on each of the leading mandated islands. Naval considerations have led to the development of a very complete radio net, and Japanese ships at any point in the western Pacific are in easy contact with Tokyo.

CHAPTER VII

INDUSTRIAL DEVELOPMENT

The Japanese people have long held a place of distinction in certain forms of industrial activity. Indeed, in the use of color and in designs, both delicate and elaborate in pattern, Japanese industrial art is unique—reflecting the character and the inspiration of the race. The deserved reputation of the country as a land of beauty and romance is perhaps attributable as much to the exquisite lacquer wares, ceramics, sculptures, and textile fabrics as to cherry blossoms, flower festivals, and the autumn colors of nature.

Since nearly all of these industrial products were wrought by hand the industry of old Japan was almost exclusively confined to the home or to establishments of small scale. It was not until well into the Meiji era that large-scale machine industry came to play any significant part in the economic life of Japan. Indeed, it was not until after the Chino-Japanese War of 1894–1895 that anything like the modern capitalistic system of production began to be general; and even today, as we shall see, a large part of Japanese manufacture is still in the handicraft stage.

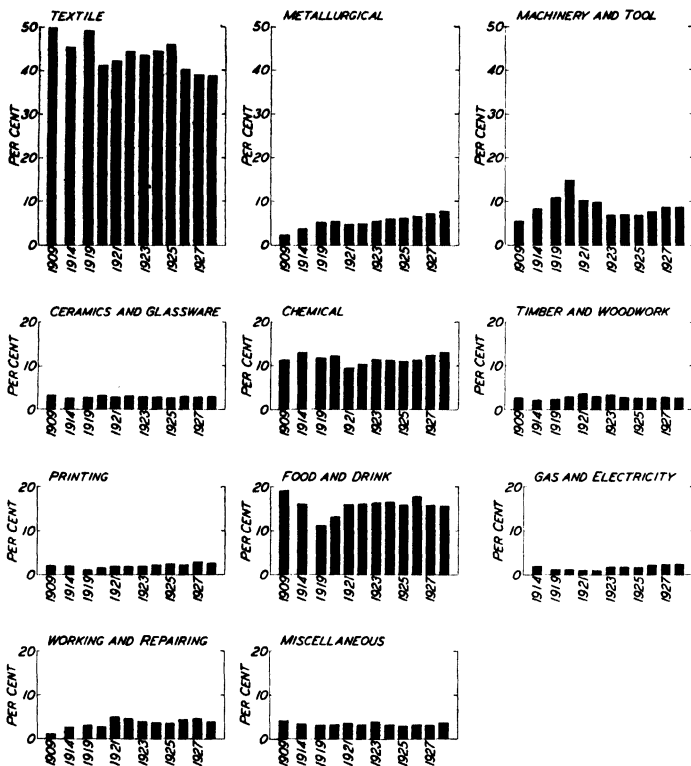
I. COMPARATIVE IMPORTANCE OF MAJOR GROUPS OF INDUSTRIAL ACTIVITIES

Most of the important industries, such as iron and steel, spinning and weaving, paper making, shipbuilding, hemp dressing, beer brewing, and flour milling, had their foundations laid in the era of expansion which followed the war with China. A second period of rapid expansion came after the Russo-Japanese War of

1904-1905, when electric enterprises received their first important stimulus. After the depression of 1908 development continued at a slow pace until the

RELATIVE IMPORTANCE OF PRINCIPAL GROUPS OF MANUFACTURING INDUSTRIES, 1909-1928 ^a

(Value of output as a percentage of total)



^a See Table 18, p. 552, for data.

era of the World War. With the opening of the war in Europe, Japanese industries underwent enormous expansion. Not only did Russia and other allied countries look to Japan for ammunition and other war sup-

plies, but oriental countries and the South Seas, cut off from European sources of supply, turned now to Japan for a wide range of manufactured goods. Chemicals and dye-stuffs, and fixed nitrogen were among the new products developed during this period.

In recent years development has been rapid in only a few industries. Since the drastic deflation of 1921, the only industries that have shown any considerable

FACTORIES AND WORKERS IN JAPANESE INDUSTRIES, 1928 *

Kind of Industry	Number of Factories	Number of Workers		
		Male	Female	Total
Textile	19,476	189,654	808,582	998,236
Metallurgical	4,092	112,141	9,562	121,703
Machinery and tool	4,531	237,474	13,183	250,657
Ceramics, glassware	2,782	55,266	12,982	68,248
Chemical	2,749	77,717	42,435	120,152
Timbering and wood working	4,063	51,190	5,441	56,631
Printing and bookbinding ..	2,515	46,134	8,086	54,220
Foodstuffs and beverages ...	10,476	124,122	43,529	167,651
Gas and electricity	445	8,573	69	8,642
Others	4,819	46,605	43,504	90,109
Total	55,948	948,876	987,373	1,936,249

* Japanese Department of Commerce and Industry, *Factory Statistics*. Factories employing less than five workers are excluded; the table, however, includes 136,032 workers employed in government factories.

expansion are gas and electricity, printing, chemicals, metallurgy, and rayon.

The relative importance of the various groups of manufacturing enterprise at selected intervals since 1909 is shown in the diagram on page 100. It will be seen that textiles have continuously occupied the dominant position, accounting in 1914 for 45 per cent and in 1928 for 39 per cent of the total. Metallurgical products and machinery and tools, taken together, rank second, with food and drink a close third. The chemical

industry has made rapid strides and at the present time stands fourth. The miscellaneous group has also shown a marked increase.

In terms of the number of workers employed, the relative importance of the different groups of industries is similar. The table on page 101 shows the number of factories and workers classified by industries for the year 1928. The textile industry is again far in the lead. Machinery and tool factories employ relatively more labor in proportion to the value of output, while chemical and gas and electrical establishments afford relatively less employment.

In order to gauge the extent of industrial expansion in Japan and the conditions which have promoted such expansion, it is necessary to consider the developments in particular lines of industry. In the following pages, therefore, we set forth the essential facts with reference to what has occurred in each of the important lines of industry—with the exception of gas and electricity, which were treated in the preceding chapter. In order to reveal the true growth of industries, we have used quantity figures wherever possible; elsewhere, in order to eliminate the effects of price fluctuations, value figures have been adjusted by selected series of wholesale prices.¹ In the diagrams on pages 110, 113, 115, 117, and 125, however, it has been impossible to make such price adjustments because of the lack of appropriate price indexes. In such cases we have, therefore, confined the series to the period of relative price stability since 1921.

II. TEXTILES

The textile industries include a wide variety of operations such as silk reeling, spinning, weaving, throwing, dyeing, knitting, braiding, and cotton willowing. Silk

¹ These series are shown in Table 16, p. 551.

reeling and the spinning and weaving of silk and cotton are, however, of primary importance, accounting in terms of value for approximately 95 per cent of the industry. The development of the more important phases of the industry is briefly outlined below.

A. Silk

1. *Reeling.* The reeling of silk, like sericulture, was in earlier times solely a household activity, constituting

CHARACTER AND VOLUME OF THE SILK REELING INDUSTRY,
BY SELECTED YEARS *

Period	Hand Process			Machine Process		
	Number of Reeling Establishments or Households ^b	Basins Operated	Output (In thousands of pounds)	Number of Filatures	Basins Operated	Output (In thousands of pounds)
1909-1913 (Average)	356,631	...	7,726	5,107	...	20,179
1918.....	251,111	350,980	8,740	4,639	275,760	39,171
1923.....	199,937	262,262	7,632	3,748	277,937	48,220
1928.....	72,581	117,195	9,361	3,509	318,540	78,139

* Japanese Department of Agriculture and Forestry, *Statistics of Silk and Floss Silk*.

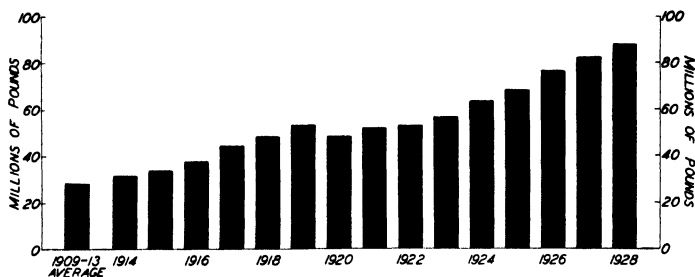
^b Includes dupion which is spun by two worms.

a subsidiary occupation of the farmers. Early in the Meiji era, however, the government established a model filature in order to encourage the development of reeling by machine process. In 1894 a silk exchange was organized at Yokohama, and in 1896 the first silk conditioning house was established. As a result of these developments, silk reeling was transformed in less than a generation from an essentially household to an essentially factory enterprise, with a consequent enormous expansion in production and in the growth of the export trade. The table on this page indicates the extent of

the change from hand-reeling to reeling by motor-operated filatures that has occurred within the last two decades.

It will be seen that the number of reeling establishments in 1928 was only about one-fifth the number in 1909-1913, and that since 1918 the number of basins has decreased considerably. The output has, however, shown a moderate increase, which indicates that the average capacity of the basins has materially increased. The number of filatures has also declined, but the num-

GROWTH OF SILK REELING INDUSTRY, 1909-1928 ^a



^a See Table 17, p. 551, for data.

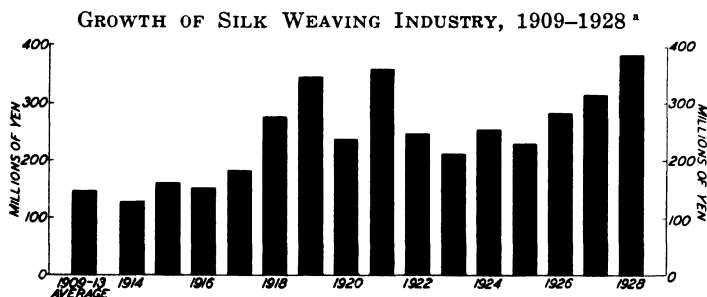
ber of basins owned has increased considerably and the output has nearly quadrupled. In 1909-1913 filatures accounted for 72 per cent of the total output of silk, while by 1928 the amount has increased to 87 per cent.

The development of the reeling industry as a whole from 1909 through 1928 is shown by the diagram on this page, which is based on quantity data of output.

In 1929 as much as 84.5 per cent of the total raw silk produced in the country was exported, 96.7 per cent of which was destined for the United States. The tremendous importance of the silk industry to Japan is evident from the fact that the exports of raw silk, silk fabrics, waste silk, and floss silk combined represented, in value terms, about 42 per cent of the total

exports of the country in 1929. Japan's production of silk, moreover, was equal in 1928 to 68.5 per cent of the total world production.

2. *Weaving.* Silk weaving in Japan is carried on in part by household hand looms and in part by factory processes. The fine silk fabrics of endless variety and pattern, for which Japan has for so long been famous, are not adapted to mass production, and are still produced by small-scale domestic enterprise. These silks are intended mainly for consumption in Japan.



* See Table 19, p. 554, for data.

In recent years, there has been a growing foreign demand for habutaye, crêpe de chine, pongee, and Fuji silk, which are for the most part of plain and simple pattern, suitable for large-scale factory production. Accordingly, a large number of weaving factories for the manufacture of these fabrics have sprung up in recent years. The larger cotton mills have also taken up silk weaving and are now turning out large quantities of silk for export, particularly Fuji silk. Out of a total production of 548,169,000 yen (including silk and cotton mixed fabrics) in 1928, exports amounted to 134,059,000 yen. The growth of the silk weaving industry is shown by the diagram on this page, based on adjusted value figures of output.

3. *Spinning.* Silk spinning has remained in a comparatively backward state despite the abundance of raw material, waste cocoons, and silk. In recent years, however, with the increase in the export of Fuji silk fabrics, there has been a rapid expansion in this industry, and several of the larger cotton mills have taken up the spinning of silk. The output in 1928 amounted to 60,047,000 yen. (For a discussion of rayon manufacture, see page 458.)

B. Cotton

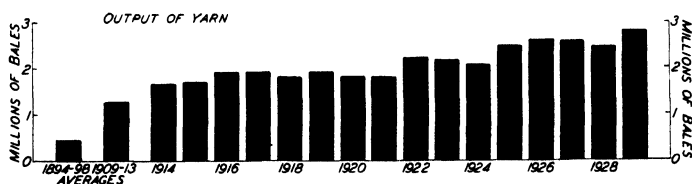
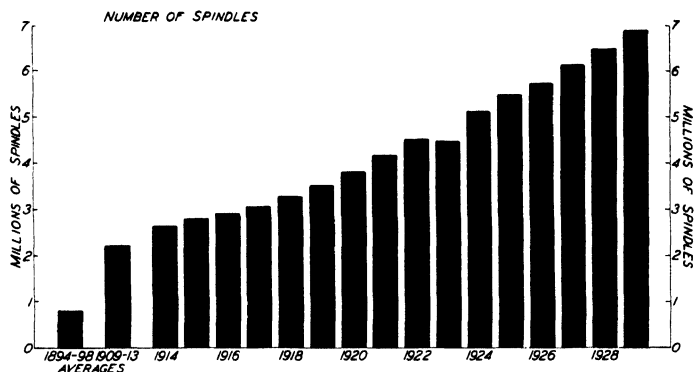
The cotton industry is one of the oldest forms of Japanese industrial enterprise, having formerly been carried on in farm households from home-grown cotton. With the introduction of spinning machines early in the Meiji era, cotton manufacturing underwent a remarkable development, and has become the most important factory enterprise in the country. Raw cotton is now almost entirely imported and the value of the exports of yarns and cloth is surpassed only by raw silk and fabrics.

1. *Spinning.* The rapid growth of the industry began in 1890. As in other lines, there was a great expansion during the World War. The post-war depression was, however, less protracted in cotton spinning than in most other lines and new records have been established in recent years. The predominance of large-scale enterprise is evidenced by the fact that 64 per cent of the 6,836,000 spindles are owned and operated by ten leading companies. The growth of the industry is indicated by the diagram on page 107, which gives the number of spindles and the output of yarns in thousands of bales.

The raw cotton consumed by Japan is procured almost equally from the United States and India. Out

of a total consumption in 1929 of 2,607,202 bales² 1,286,777 bales came from India, 1,131,120 bales from the United States, 143,885 bales from China, Egypt, and Africa combined, and 29,746 bales from Chosen—the only place in the Empire where cotton is produced.

GROWTH OF THE COTTON SPINNING INDUSTRY, 1894-1929 ^a



^a See Table 20, p. 554, for data.

In number of spindles Japan stands only seventh among the nations of the world, but in the consumption of raw cotton she ranks as high as third. The explanation of the higher rank in the consumption of raw cotton is that Japanese mills work longer hours than those of other countries and also produce relatively more of the coarser yarns which require larger quantities of the raw cotton. Mills have been characteristically

² Bales of 500 pounds gross.

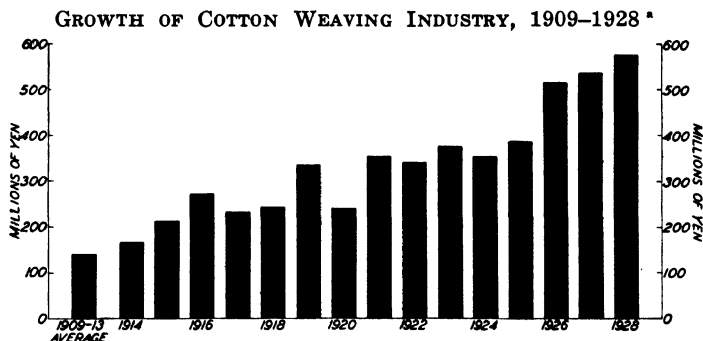
operated continuously, with two shifts of twelve hours each, including a recess of one hour. Beginning with July, 1929, however, the night shift has been abolished.

The principal export markets for Japanese yarns are China and India, with smaller quantities going to the South Seas Islands and the South African countries. The exports have been adversely affected during the last few years because of the marked development of the spinning industry in some of these countries. It is significant to note in this connection that Japanese spinning companies have in recent years extended their operations into China, and now operate mills in Shanghai and Tsingtau. The number of spindles in these mills is 1,442,840, equal to over 22 per cent of the total number of spindles in Japan proper. There are also weaving looms in these Chinese mills to the number of 11,203.

2. *Weaving.* Until after the Chino-Japanese War, all cotton fabrics were woven by farm women from coarse, irregular, hand-spun yarn. Since 1895 the development of the spinning industry, and particularly the combination of spinning and weaving by leading mills, has quite revolutionized the process of weaving cotton fabrics. Cotton cloth of narrow width suitable only for home consumption has in large part been superseded by a broad cloth adapted for production and export on a large scale. While the manufacture of narrow cloth for home consumption still continues in the smaller factories of country towns, it represented in 1928 only 21 per cent of the total output. The growth of the cotton weaving industry is shown in the diagram on page 109, based on adjusted values of output.

Before the World War, the value of the exports of cotton yarns greatly exceeded the value of exported fabrics, the figures for 1912, for example, being: yarns, 53,665,000 yen; fabrics, 25,754,000 yen. In 1929 the

export of yarns had declined to 26,755,000 yen, whereas the export of fabrics had shown a great increase to 412,706,000 yen. Japanese fabrics are now exported not only to China and India but also to Asia Minor, the Balkans, and Africa. In recent years, the finer goods such as cotton satins, damasks, and poplins have been making substantial headway.



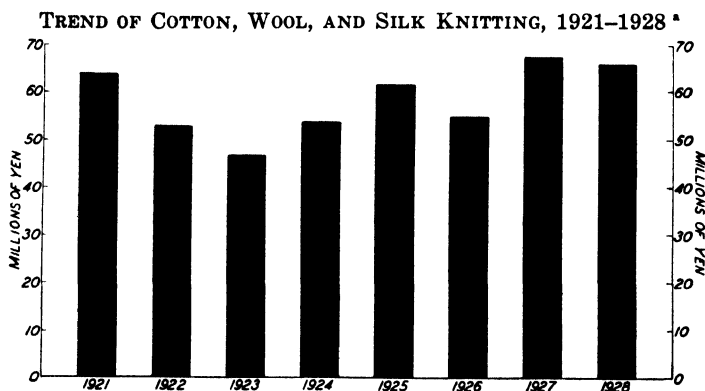
* See Table 21, p. 555, for data.

2. *Knitting (including cotton, silk, and wool).* Since the statistics for cotton, wool, and silk knitted goods are grouped together under the knitting industry, they must be considered here as a unit. Cotton knit goods are, however, of much greater importance than other knit products, the output in 1928 having a value of 46,036,000 yen, as compared with 17,995,000 yen for wool and woolsey, and only 881,000 yen for silk. The knitting of silk is confined to hose, gloves, and miscellaneous articles.

The knitting industry showed a steady development in the years before the World War with a substantial expansion during the war period. During the early post-war years the knitting industry of Japan was adversely affected by the resumption of operations in European mills and by the establishment of knitting

factories in China and other eastern countries. Production has shown very little change since 1921. Of the total output of all classes of knit goods in 1928, underwear accounted for about 60 per cent and hosiery for about 21 per cent. Approximately half the annual production is now exported.

Since no appropriate price index exists with which to make value adjustments, no attempt has been made to show the actual growth of the industry over a long period of years. The following diagram, however,



* See Table 22, p. 555, for data.

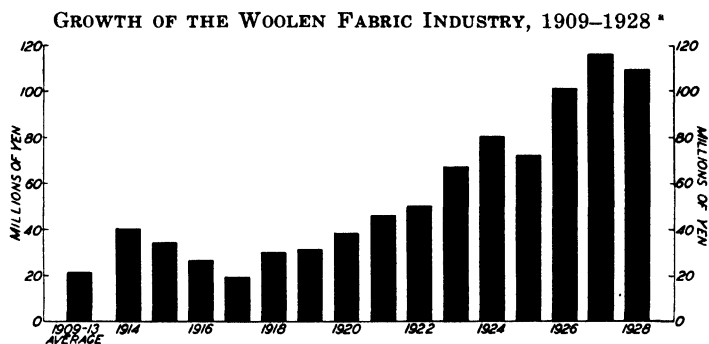
shows the trend of output, in value terms, of the knitting industry during the period of comparatively stable prices from 1921 through 1928.

C. Woolens

Woolen fabrics are divided into two broad classes, heavy materials such as serges, and thin stuffs or mousseline-de-laine, the latter being widely used as a substitute for cotton or silk fabrics. Until recent years the manufacture of heavy woolen cloth developed slowly in Japan, notwithstanding the growing demand for woolen goods that has accompanied the adoption

of western fashions. Despite the imposition of increasingly heavy tariff duties, foreign competition has continued to be effective. The manufacture of mousseline-de-laine, on the other hand, was expanded very greatly during the World War, but the industry has been rather severely depressed in the post-war period.

At the end of 1928 there were 111 woolen spinning and weaving companies in Japan which operated 22,693 looms and had a total output valued at 220,419,000 yen, of which approximately 40 per cent consisted of mousseline-de-laine. The output of woolen cloths and



* See Table 23, p. 556, for data.

serges amounted to 103,361,000 yen; while imports of these fabrics were valued at 30,343,000 yen.

The growth of the woolen fabric industry is shown by the diagram on this page, based on adjusted value figures of output.

D. Hemp

The numerous products made from hemp, jute, ramie, and flax include hemp cloth, mosquito netting, canvas, duck, napkins, linen, hose, Hessian cloth, and gunny cloth. It was not until the Great War that this industry became of any importance, chiefly because the production of raw materials was negligible in quan-

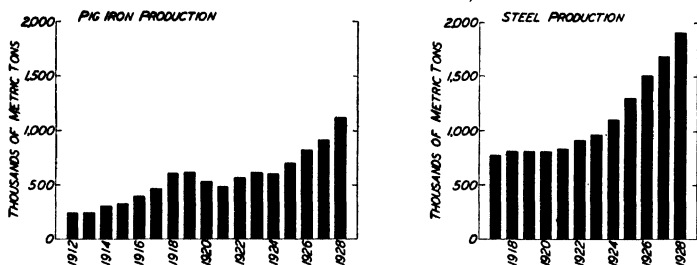
tity. But with the development of the production of flax in recent years the industry has shown a substantial growth, and supplies practically all of the domestic requirements.

The manufacture of narrow-width hemp cloths and mosquito netting is still carried on as a household enterprise, but the other products are made in factories. The number of workers employed in hemp mills in 1928 was 7,751. The output of hemp yarns in 1928 was valued at 17,599,000 yen, and of hemp fabrics at 18,740,000 yen.

III. METALLURGICAL INDUSTRY

1. *Iron and steel.* The development of the iron and steel industry did not begin in Japan until after 1900.

PIG IRON AND STEEL PRODUCTION, 1912-1928 ^a



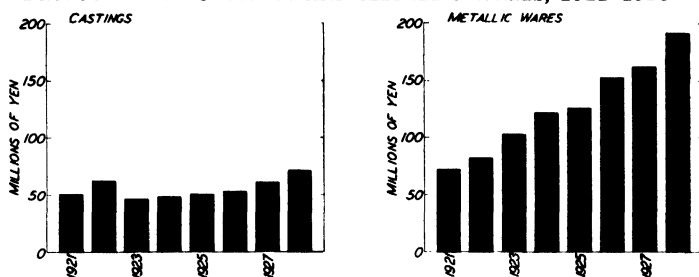
^a See Table 24, p. 556, for data.

Although an iron foundry was established by the government at Yawata in 1896, actual operations were not begun until 1901. The growth of shipbuilding and machine-making industries after the Russo-Japanese War stimulated the establishment of iron works as private enterprises, but for a number of years the plants were relatively small and inefficient. During the World War the prevailing conditions and government encouragement in the form of tax exemptions and subsidies led to a substantial expansion of the

industry under private initiative. The diagram on page 112 shows the growth of the iron and steel industry year by year from 1912 through 1928.

After the World War, the depression in the munitions and shipbuilding industries adversely affected iron and steel production, but this loss was more than offset as a result of the expansion in the manufacture of railway equipment and the growth of the electric machine industry. As the diagram shows, production of both iron and steel has expanded very considerably since 1920. Notwithstanding this growth of

PRODUCTION OF CASTINGS AND METALLIC WARES, 1921-1928 ^a



^a See Table 25, p. 557, for data.

the iron and steel industry, Japan still imports a substantial part of her total requirements. For further discussion of iron and steel potentialities, see Chapter XXIV.

2. *Castings and metallic wares.* The manufacture of castings and other metal products was a natural accompaniment of the growth of the metallurgical industry. Beginning shortly after the Russo-Japanese War, the production of these wares remained of negligible importance until the period of the World War, the value of the output in 1914 amounting to approximately 30,000,000 yen, of which about 10,000,000 yen is assigned to castings and a little over 20,000,000 yen to metallic wares. No figures of production are available

for the war years, but it is known that the output expanded steadily. The diagram on page 113, based on unadjusted value figures, shows the growth of the industry from 1921 to 1928 inclusive.

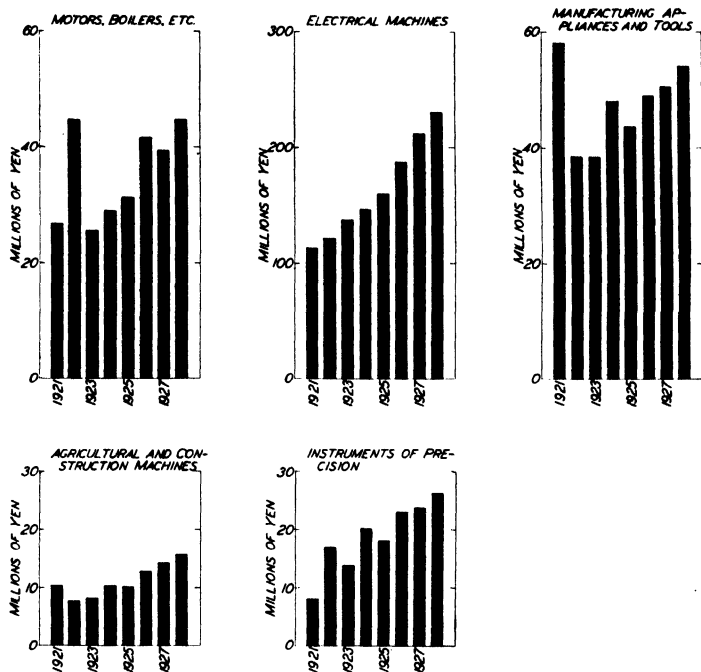
IV. MACHINERY AND MACHINE EQUIPMENT

Under this general heading is included a wide variety of products made from iron and steel. For convenience, they are classified into five groups: (1) motors, boilers, and pumps; (2) electrical machines and accessories; (3) agricultural and construction machines and tools; (4) manufacturing appliances and tools; and (5) instruments of precision. Included under the first classification are steam boilers, gas producers, steam turbine and internal combustion engines, water turbines, cranes, transporters, pumps, and air-compressors. The second group comprises dynamos, transformers, electric instruments, batteries and bulbs, telegraph and signal machine instruments, and insulated wire. The third group is composed of agricultural implements and trenching tools; civil engineering and building machines; and mining, ore dressing, and refining machines and tools. The fourth class consists of appliances and tools used in the textile, metal working, wood working, ceramic, paper manufacturing, chemical, food, and book industries, and "artisan cutteries," printing type, and miscellaneous tools and instruments. The fifth group includes weighing machines, gauges, meters, watches, and clocks.

Annual data for pre-war and war years are not available, but it is known that there was a rapid increase of production after 1909, and that expansion continued during the war era. We present in the diagram on page 115, based on unadjusted value figures, the growth of production for the period of comparatively stable prices from 1921 to 1928 inclusive.

All of these industries received a considerable impetus during the Great War, and practically all suffered recession in the early years of the post-war period. As a result of the expansion of the electrical industry, however, the production of electrical equip-

GROWTH OF MACHINERY INDUSTRY, 1921-1928 *



* See Table 26, p. 557, for data.

ment has shown a great increase. Production of the various instruments of precision has also shown a substantial increase throughout the post-war period. Japanese production in most of these lines is, however, far from sufficient to meet the total requirements of the country.

Agricultural and civil engineering machines and tools are largely supplied by home production, the heavy transportation costs being a bar to imports. Most of the cranes used, however, are imported from abroad, and a substantial part of the pumps, air-compressors, dynamos, and textile and paper manufacturing machinery is imported.

V. SHIPS AND ROLLING STOCK

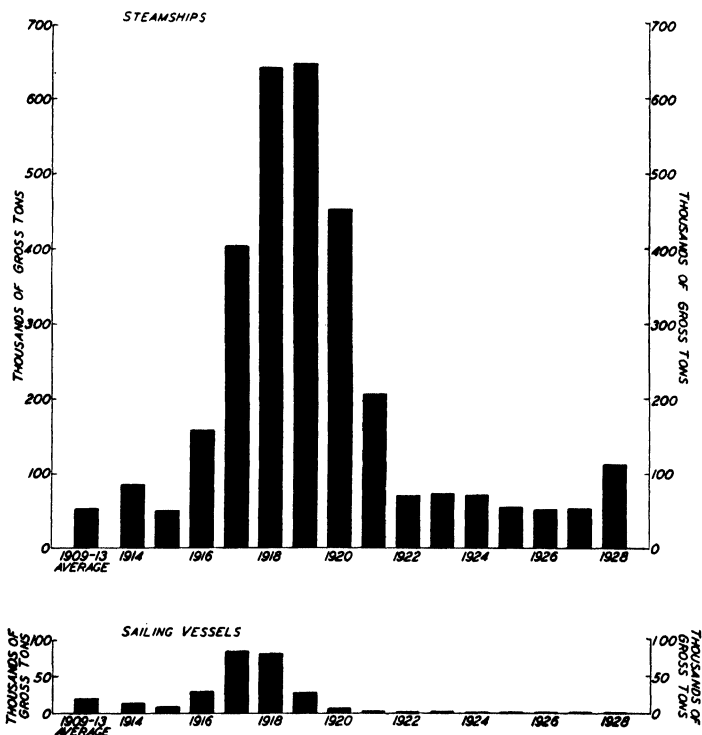
The development of transportation industries, including railways, tramways, and ocean shipping lines, has already been discussed in Chapter V. The expansion of these industries was naturally accompanied by an extensive development in the manufacture of ships, rolling stock, equipment, and accessories. The automobile industry, with its accompanying accessory trades, is, however, still in the incipient stage of development.

1. *Shipbuilding.* As pointed out in Chapter V, the development of Japanese shipping and shipping lines began in the seventies and eighties, expanded rapidly after the wars with China and Russia respectively, and underwent a phenomenal development during the course of the World War. The diagram on page 117 indicates the growth in tonnage production of steamships and sailing boats from 1909 to 1928 inclusive.

The volume of shipping produced annually increased nearly twelve-fold during the war period. But in the seven years from 1922 to 1928 inclusive the total tonnage of ships produced was less than in either of the single years 1918 or 1919. Some of the dock yards, in order to continue operations, have turned to the manufacture of bridge girders, rolling stock, and other types of machinery.

2. *Rolling stock.* The development of this industry dates from the nationalization of the railways in 1906.

With a view to promoting the manufacture of rolling stock, the government always gave preference to domestic factories in the placing of orders. The industry has gradually developed to a point where, with

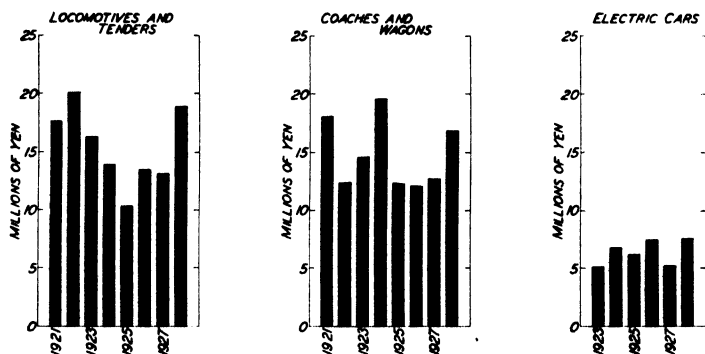
SHIPS LAUNCHED, 1909-1928 ^a

^a See Table 27, p. 558, for data.

the exception of accessories (chiefly wheels, axles, and springs), it can meet all of Japan's requirements. The electrification of the railways which is proceeding steadily has also led some factories to turn to the manufacture of electric locomotives.

The output of rolling stock was unimportant prior to 1915. Production expanded very rapidly during the war years; though the manufacture of electric locomotives was insignificant until after 1922. The growth of the industry from 1921 through 1928 is shown in the following diagram, based on unadjusted value data.

PRODUCTION OF ROLLING STOCK, 1921-1928 *



* See Table 28, p. 558, for data.

The development of the automobile industry has been very tardy in Japan, and the number of cars annually produced is still negligible. The number and the value of automobiles and motor-cycles produced annually during the period 1921-1928 are shown in the table on page 119. The low value figures indicate that much the greater number of vehicles must have been motor-cycles and inexpensive types of cars.

Automobiles were imported into Japan in 1929 to the number of 5,018 and to the value of 9,545,000 yen. The value of accessories imported was double the value of the imported cars, indicating that parts are being imported for assembly in Japan. The number of automobiles registered in Japan in March, 1929 was only 40,063, or one to every 1,551 inhabitants, while the

number of trucks was 20,470. The ratios of passenger cars to inhabitants for other selected countries are as

PRODUCTION OF AUTOMOTIVE INDUSTRY, 1921-1928 ^a

Year	Number of Vehicles	Value (In thousands of yen)
1921.....	...	2,610
1922.....	...	3,628
1923.....	305	952
1924.....	771	982
1925.....	4,092	7,436
1926.....	32,665 ^b	18,724
1927.....	10,789	24,806
1928.....	23,347	42,599

^a Japanese Department of Commerce and Industry, *Factory Statistics*.

^b The large number in this year is attributed to an unusually large output of motor-cycles.

follows: United States, 1 to 5; Great Britain, 1 to 44; France, 1 to 46; and Germany, 1 to 139.

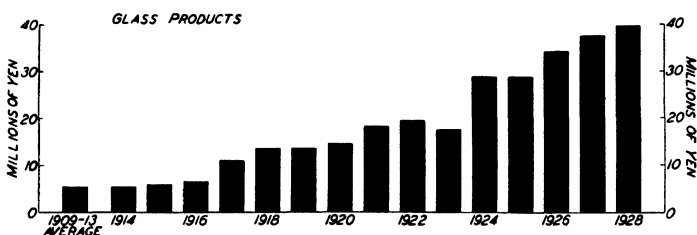
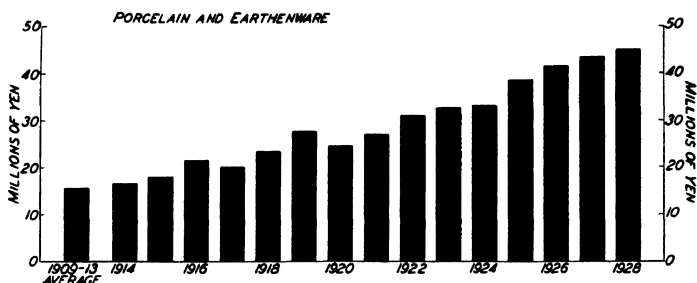
VI. CERAMICS AND GLASSWARE

Among the ceramic industries, porcelain and earthenware, glassware, and Portland cement have had an extensive development. Bricks, tiles, and lime are of negligible importance.

1. *Porcelain and earthenware.* Since the earliest times Japan has been noted for porcelain and earthenware products of varied types, which were differentiated by the names of the places where they were manufactured. Since the introduction of western methods of manufacture, various sorts of wares, modelled after European fashions, have been turned out as specialty products. The industry underwent a marked expansion during the war and steady development has continued in the post-war period. The diagram on the following page, based on adjusted value

figures, shows the trend of production of porcelain and earthenware products. Exports have shown a remarkable development since pre-war days, now equalling approximately 45 per cent of the total output. In 1929 this class of goods ranked fourth among Japanese exports, the principal markets being the United States, the Dutch East Indies, and British India.

GROWTH OF CERAMIC AND GLASSWARE INDUSTRY, 1909-1928 *

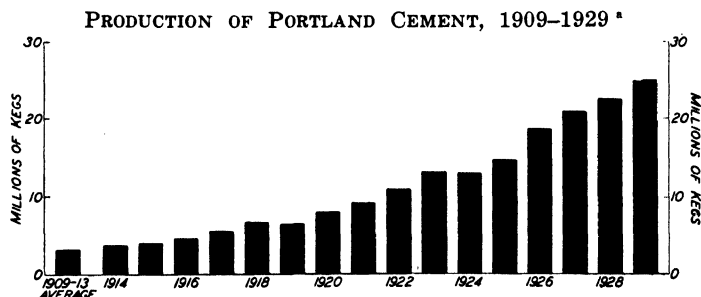


* See Table 29, p. 559, for data.

2. *Glass.* Glass articles have been produced in Japan for more than 1,500 years. It was, however, not until 1873 that a modern glass factory was established. The growth of the industry was comparatively slow until after 1907, the chief products being bottles, tableware, lamps, and lamp-chimneys. During the World War the industry showed a remarkable expansion, and it has continued to grow in the post-war era. Particu-

larly noteworthy has been the growth of plate-glass production from 349,000 yen—1909–1913 average—to 15,145,000 yen in 1928, which was sufficient to supply about three-fourths of the domestic requirements. The trend of production of glass products is shown in the diagram on page 120, based on adjusted value figures.

3. *Portland cement.* Japan has an abundant supply of clay and limestone, which are the essential materials for cement manufacturing. To promote the development of the industry, the government in 1871 established in Tokyo a cement factory which was trans-



^a See Table 30, p. 559, for data.

ferred to private enterprise in 1883. The industry developed sufficiently in the early eighties and nineties to meet all domestic needs. In the expansion period after the Russo-Japanese War, Japanese cement found its way into Chinese markets. An enormous expansion occurred during the World War to meet the requirements of construction work in hydroelectric enterprises. The industry was again accelerated in the post-war period by the reconstruction requirements occasioned by the earthquake of 1923. The trend of production is indicated by the diagram on this page, showing quantity output. Exports have steadily expanded and are equal to about 10 per cent of the total production.

VII. CHEMICALS

Included under this general classification are drugs and medicines; dye-stuffs, paints, and colors; soap and cosmetics; matches, powder, and other explosives; oils and fats; rubber; celluloid; paper and pulp; rayon, and artificial fertilizer. This industry owes its development largely to the exigencies of the World War. While

FACTORIES AND WORKERS IN THE CHEMICAL INDUSTRY, 1928 *

Classification of Products	Number of Factories ^b	Number of Workers		
		Male	Female	Total
Drugs and medicine.....	448	10,474	4,594	15,068
Dye-stuffs, paint, and colors..	196	3,128	701	3,829
Soap and cosmetics.....	184	2,484	2,836	5,320
Matches, powder, and other explosives.....	132	4,522	6,687	11,209
Oils and fat.....	287	5,252	1,025	6,277
Rubber.....	548	11,344	9,730	21,074
Celluloid.....	115	3,218	1,616	4,834
Artificial silk.....	10	6,039	4,836	10,875
Paper.....	491	19,587	8,843	28,430
Artificial fertilizer.....	94	7,551	323	7,874
Other chemical products.....	244	4,118	1,244	5,362
Total.....	2,749	77,717	42,435	120,152

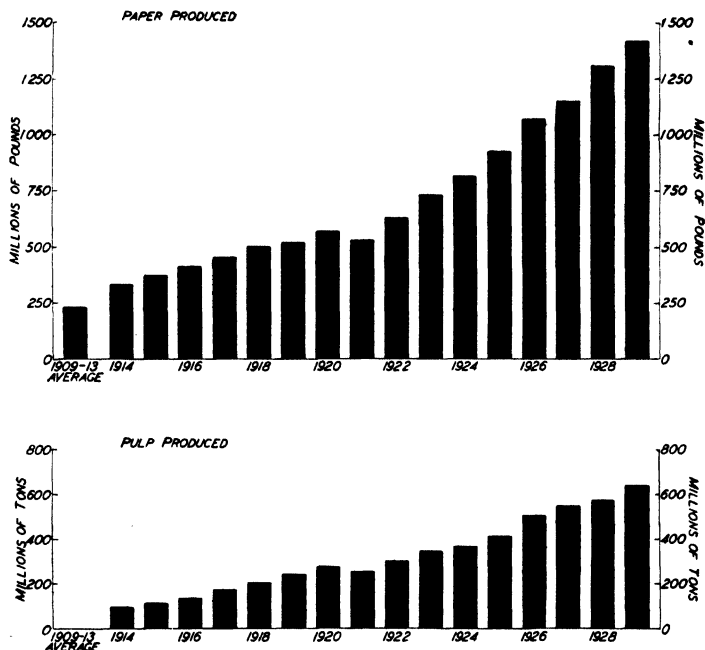
* Japanese Department of Commerce and Industry, *Factory Statistics*.

^b Factories employing less than five workers are excluded; government factories are included.

the paper, rubber, and celluloid industries had existed for a good many years, the output was enormously stimulated by the war, while such products as dye-stuffs and electro-chemicals had never been produced in Japan prior to this time. The relative importance of the various divisions of the industry in 1928, as measured by the number of factories and workers, is indicated by the table above.

1. *Paper manufacturing.* Japanese paper is classified into two main divisions: (1) that produced by old-time Japanese methods, and (2) that made by occidental methods. Pure Japanese paper is produced largely for special purposes and the output is com-

PRODUCTION OF PAPER AND WOOD PULP, 1909-1929 ^a



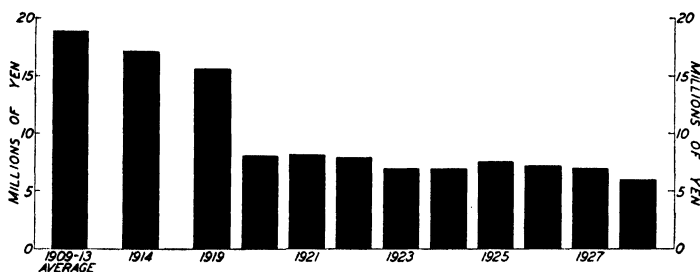
^a See Table 31, p. 560, for data.

paratively stationary at around 50,000,000 yen a year. The use of machines for paper manufacture began in the seventies and the output has increased with extraordinary rapidity, the consumption expanding from 10 to 15 per cent annually. Since the World War, Japanese products have found their way into China and other eastern countries. While imports of foreign-made paper still continue, they no longer exceed the exports.

The trend of production is shown by the diagram on page 123. It is of interest to know that notwithstanding the remarkable growth of this industry the per capita consumption of paper in Japan is only 20.2 pounds,³ as compared with 175 pounds in the United States.

2. *Pulp.* The first machinery for making wood pulp was installed in a Japanese mill in 1889, and within a short time rags and straw were gradually replaced by wood pulp as material for paper. The insufficient supply of wood in Japan proper has necessitated the extensive use of the forests of Karafuto. The imports of wood pulp comprise approximately 13 per cent of the supplies used. Experiments are now being conducted

PRODUCTION OF MATCHES, 1909-1928 *



* See Table 32, p. 560, for data.

in Taiwan with a view to obtaining pulp out of sugarcane refuse. The trend of pulp production is shown in the diagram on page 123.

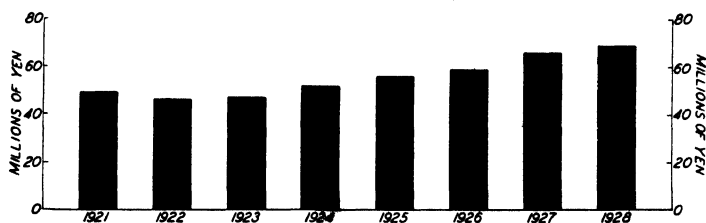
3. *Matches.* The manufacture of matches was begun in the early years of the Meiji era and by 1880 foreign matches had disappeared from the market and some Japanese matches were exported to China. During the World War Japanese matches were exported even to Russia and America, but in the post-war period both

* Exclusive of pure Japanese paper.

the production and the exports have declined, owing to the extensive development of the match industry in China and to the competition of the great Swedish match combination. The International Match Company has, in fact, obtained the controlling interest in some of the leading Japanese match companies, combining them under the name of the Daido Match Company. The trend of production is shown in the diagram on page 124, based on adjusted value data.

4. *Rubber.* The development of the rubber industry began in the years following the Chino-Japanese War.

PRODUCTION OF RUBBER GOODS, 1921-1928 ^a



^a See Table 33, p. 561, for data.

Expansion was comparatively slow until the World War, when there began a remarkable growth which has continued even through the post-war period. In 1928 there were approximately 548 rubber factories employing over 21,000 workmen. The most notable increase has been in the production of rubber boots and rubber tires. Production data are scanty until the post-war era. The output was valued at 6,173,499 yen in 1914, after which we have no figures until 1919, when the value reached 32,422,000 yen. The increase in production from 1921 through 1928 in value terms is shown by the diagram on this page, based on unadjusted data.

Japan has been able to procure her rubber materials at relatively low prices because of the nearness to the

Straits Settlements and India, from which the imports of crude rubber chiefly come. Tires, toys, and rubber articles are exported to China, the Straits Settlements, and the Dutch East Indies, but the growth is not rapid. The value of the total exports is only about 13 per cent of the total production.

5. *Rayon*. The manufacture of rayon or artificial silk was first undertaken in Japan in 1913, but it was not until some years after the war that the industry was placed on a paying basis. At the end of 1929 there were ten companies engaged in the manufacture of rayon, having aggregate capital resources of approximately 87,360,000 yen, and another 10,000,000 yen company had been organized.

Production increased rapidly after 1926, and exports now materially exceed imports. While Japan has an enormous forest area, she has nevertheless scanty supplies of the right kind of wood pulp for the manufacture of rayon, and in consequence nearly all of the pulp used is imported. The expansion of the industry in the last few years, however, indicates that the necessity of importing wood pulp is not a serious handicap.

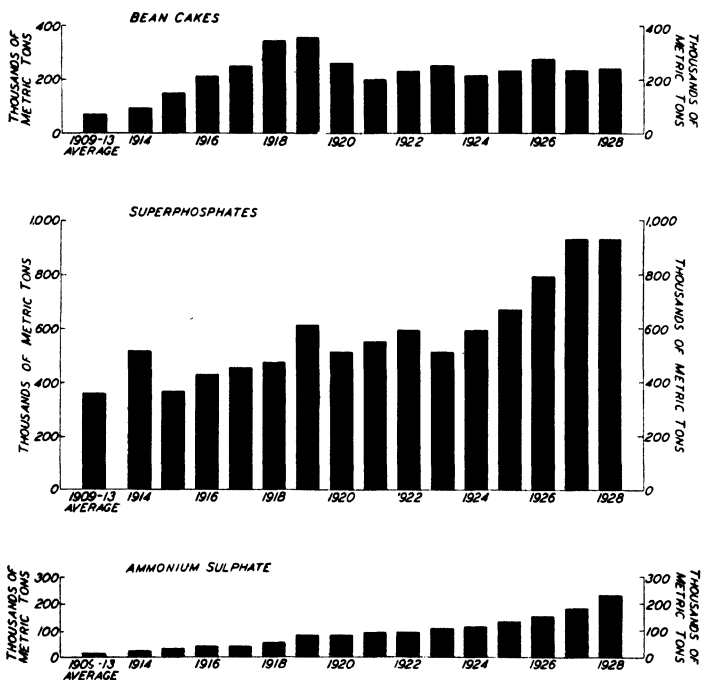
6. *Artificial fertilizers*. The intensive agriculture of Japan has necessitated the use of large amounts of fertilizers. The annual value of the fertilizers used is estimated at more than 621,000,000 yen, of which about one-half is supplied on the farms. Domestic production of commercial fertilizers now slightly exceeds the imports.

Bean cakes, the oldest form of fertilizer used in Japan, are mainly imported from Manchuria. At the present time, however, Japan produces at home a little over 20 per cent of the bean cakes consumed.

The production of superphosphate of lime was started in 1888, but it did not prosper until the Chino-Japanese War, when the curtailment of the import of

bean cakes from Manchuria forced a resort to superphosphate as a substitute. The phosphate ore had to be imported mainly from Florida, Cossier, and the Christmas Islands. A similar impetus was given to superphosphate production when the Russo-Japanese

PRODUCTION OF FERTILIZERS, 1909-1928 ^a



^a See Table 34, p. 561, for data.

War again interfered with imports of bean cakes. Many of the sulphuric acid factories which came into existence after that war also took up the manufacture of superphosphate. The output was greatly increased during the war period and has continued to expand in recent years, so that Japan now supplies not only all

her own needs but exports considerable quantities as well.

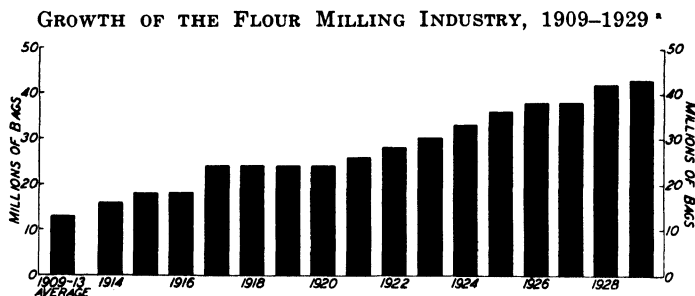
Ammonium sulphate was produced in insignificant quantities prior to the World War. The production was stimulated somewhat during the war years; but, as a result of the subsequent development of the process of production through the fixation of atmospheric nitrogen, the real expansion did not come until after the war. Advanced processes of manufacturing have been adopted, old factories have been enlarged, and new ones opened. Iron foundries also manufacture ammonium sulphate as a by-product. Of the total consumption, however, more than half is still imported. The diagram on page 127, based on quantity data, shows the growth of the fertilizer industry.

VIII. FOODSTUFFS AND BEVERAGES

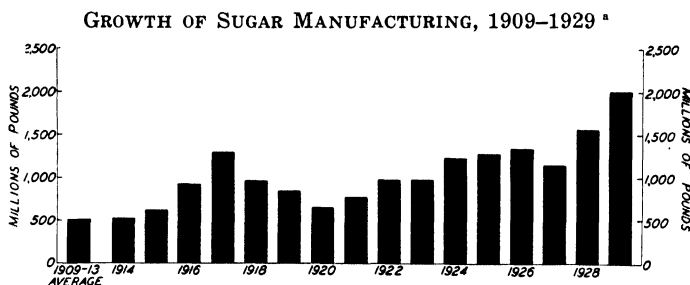
In Japan, as in other countries, the manufacture of foodstuffs and beverages is one of the most important industries. It stands next to the textile group in total value, with alcoholic liquors accounting for nearly one-third of the total.

1. *Flour milling.* Since rice, which is not milled, is the staple food of the people, the flour milling business in Japan is comparatively unimportant. Until quite recently wheat flour was made at water mills on a very small scale, the bulk of the requirements being supplied from imported flours. While some expansion was stimulated after the Russo-Japanese War by the levying of duties on imported flour, it was not until the World War that any material growth of the industry occurred. At that time many modern flour mills were established and the production has continued to expand in the post-war years. Considerable quantities of flour are now also exported, the markets extending from China to the South Seas. So substantial has

been the growth of the flour milling business that home production of wheat is insufficient, from 15,000,000 to 26,000,000 bushels of foreign wheat being imported annually. The growth of the flour milling industry is indicated by the following diagram, based on quantity data.



* See Table 35, p. 562, for data.

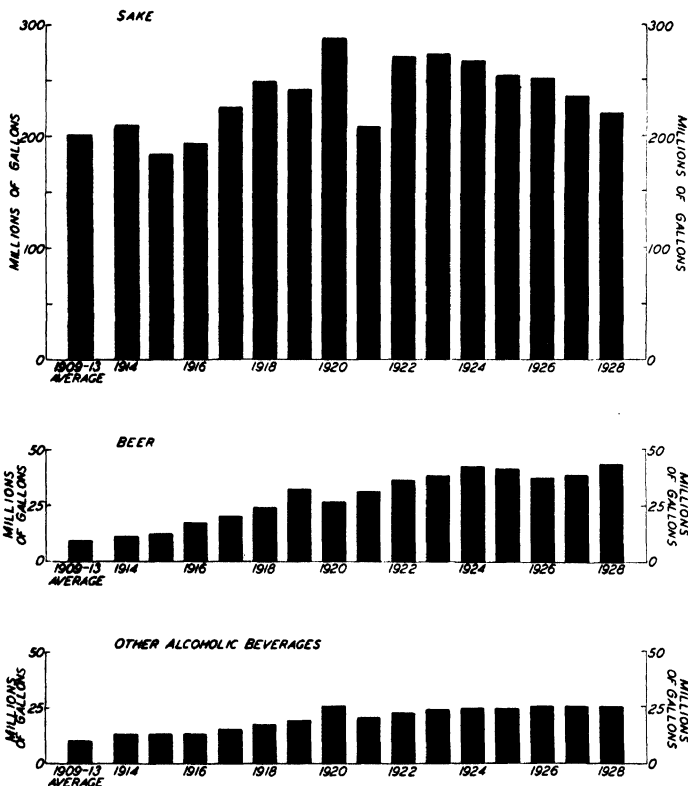


* See Table 36, p. 562, for data.

2. *Sugar refining.* It was not until 1895 that Japan undertook the manufacture of refined sugar. In that year a sugar company was established which imported from Java the raw sugar required. After the annexation of Taiwan, a portion of the supply was procured from that source, but inasmuch as Java sugar was better in quality, cheaper in price, and more certain in supply, for about 15 years the imports from Taiwan

were small in quantity. The integration of sugar companies in 1911, whereby both the production of raw sugar and the refining process were carried out by the

PRODUCTION OF ALCOHOLIC BEVERAGES, 1909-1928 *



* See Table 37, p. 563, for data.

same management, however, resulted in giving to sugar produced in Taiwan a priority in Japanese markets. From that time on, the imports of Taiwan sugar increased rapidly, whereas the imports of foreign sugar remained practically stationary. The growth of the

sugar manufacturing industry since pre-war days is shown by the diagram on page 129, based on quantity figures.

The per capita consumption of sugar in Japan has been steadily increasing, standing at 30 pounds in 1928 as compared with about half that amount ten years earlier. This consumption figure does not, however, compare favorably with that of other countries for the same year; for example, 112 pounds in the United States, 101 pounds in the United Kingdom, and 56 pounds in Germany.

3. *Beverages.* Sake, the most widely used beverage in Japan, is made out of rice by an old traditional process which has undergone no change in recent times.⁴ There are 10,654 breweries scattered throughout the country. The output steadily increased until about 1920, when a moderate decline in consumption began, indicating that domestic taste is shifting gradually in favor of beer. Exports have declined by about 50 per cent in recent years, owing chiefly to prohibition in the United States and Hawaii.

The demand for beer increased steadily in the early years of the Meiji era. The supply was at first met largely by importation, but the beer brewing industry made so rapid an advance that by 1895 Japan had become an exporter of beer to China. Beer consumption again increased during the World War and it continued to expand throughout the post-war period. The diagram on page 130, based on quantity figures, shows the growth of the alcoholic beverage manufacturing industries.

IX. THE PERSISTENCE OF HANDICRAFT INDUSTRY

Notwithstanding the growth of capitalistic enterprise and the economic expansion of the past 30 years,

⁴ The government Chemical Bureau has, however, quite recently succeeded in creating artificial sake by chemical process.

Japanese industrial establishments remain on the whole extremely small in size as measured by occidental standards. Indeed, it may fairly be said that small-scale industry is still the rule in Japan, the average paid-up capital of 14,266 industrial companies operating in 1928 being only 342,539 yen. There are, however, in contrast, a few corporations of great size, whose operations are of a most varied and integrated character. (See page 134.)

The very small size of the typical factory is most clearly indicated by the following table which shows for the end of 1928 the number of factories employing a given number of workers.⁵ More than 50 per cent of the 55,948 factories listed employ from five to nine workmen, and only about 0.5 per cent employ as many as 1,000 workers.

Number of Workers Employed		Number of Factories
5 to	9.....	29,116
9 to	15.....	7,824
15 to	30.....	9,339
30 to	50.....	3,999
50 to	100.....	2,850
100 to	500.....	2,283
500 to	1,000.....	314
1,000 and over	.....	223

The persistence of a relatively small-scale, quasi-handicraft system of industry profoundly affects economic and social organization. It gives rise to difficult problems in connection with the extension of credit, it tends to promote inefficiency in operation, and it works against the rationalization of economic activities. On the other hand, it profoundly affects modes of living and social conditions; and, as we shall see in Chapter XIX, it has a vital bearing upon the problem of industrial relations.

⁵ Government factories are included.

CHAPTER VIII

DOMESTIC TRADE ORGANIZATION

In the evolution of modern Japan, the development of industry and the growth of transportation facilities were accompanied by a great expansion of both domestic and foreign commerce. During the Tokugawa era, trade with foreign countries—except in a limited way with China and Holland—was interdicted, and internal trade was also severely restricted, being regarded by the feudal nobility as a calling unworthy of a dignified people. In the present chapter, we shall give a brief account of the growth of internal trade and of the development of the commercial agencies and devices which are necessary to the conduct of commerce on an extensive scale.

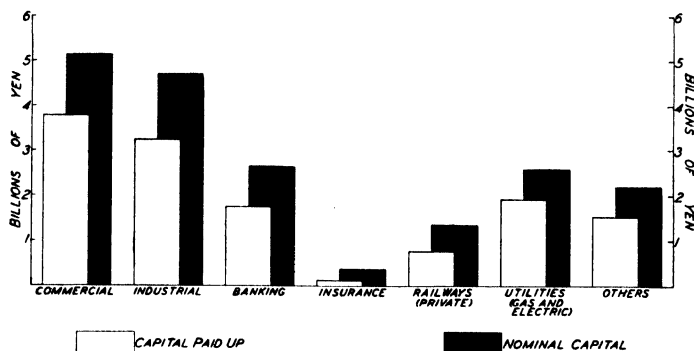
I. THE IMPORTANCE OF TRADE

Next to agriculture, trade is by far the most important single economic activity in Japan, whether measured by capital employed or by the number of people engaged therein. Since pre-war days there has been a remarkable growth in the number and capital resources of trading companies. In 1913 there were 8,813 commercial companies representing paid-in capital to the amount of 931,215,000 yen. Of these companies 3,750, with an aggregate paid-in capital of 148,273,000 yen, were engaged exclusively in trading. By 1928 these figures had increased to 21,427 and 5,667,444 yen for all commercial companies and to 13,860 and 1,536,629,000 yen for those engaged only in trading.¹ In addition

¹ The figures for 1913 are from Japanese Government, *Statistics of Department of Agriculture and Commerce*, and those for

to these companies there were in 1928 as many as 548,760 individuals engaged in trading operations (with net profits in excess of 400 yen). These commercial companies comprise 51 per cent of all the companies in Japan and their capital represents 43 per cent of the entire paid-up capital of all corporations, exclusive of government enterprises. The following diagram shows the relative importance of the principal classes of Japanese companies as measured by capital resources.

CAPITALIZATION OF BUSINESS GROUPS, JAPAN PROPER, 1928 ^a



^a See Table 38, p. 563, for data.

A striking feature of the commercial organization of Japan is the degree of trade concentration in the hands of a few great companies. Some of these concerns originated as family enterprises as far back as the sixteenth and seventeenth centuries, and they have played a rôle of profound importance in connection with the economic evolution of the country. Their operations have come to extend to nearly every field where capital may find a profit—raw material and fuel production,

1928 are from Japanese Department of Commerce and Industry, *Corporation Statistics*.

transportation and manufacture, banking and insurance, warehousing, wholesaling, and retailing. In the extent to which both vertical and horizontal integration has been carried out, these Japanese enterprises are without parallels elsewhere in the world. The Mitsui Company, for example, is not inaccurately described as a "commercial empire." In view of their long history and the sweep of their present influence, it is not surprising that the leaders of these family enterprises enjoy a dignity and prestige that places them in intimate relations with the highest officials of state. Something of the feudal spirit still lurks beneath the modern form of these great capitalistic organizations.

II. TRADE ORGANIZATION

The internal trade of the country consists chiefly of the exchange of rice, barley, vegetables, and other foodstuffs; cocoons and other raw materials for industries; cotton yarn; textile fabrics; machines; tools; fertilizers; and imported goods. The movement of agricultural crops is seasonal in character, giving rise to marketing, storage, financing, and price problems similar to those which prevail in the United States. In textile manufacture there are also two distinct marketing seasons, following the manufacture of winter fabrics in September and October, and the making of summer apparel in February and March.

The organization of trade in Japan is similar to that which was all but universal in the United States until comparatively recent years. In nearly all lines of business, goods are marketed through a series of middlemen. While the number of middlemen differs in various lines, the wholesaler is found almost universally.

Distribution is carried out through a number of large centers, of which the most important are Yokohama, Tokyo, Osaka, and Kobe, in connection with export and import business, and Osaka and Tokyo in connection with internal trade. Osaka, that is, greater Osaka, a city of about 2,500,000 inhabitants and the geographical center of the Empire, is located at the head of the Inland Sea. Its sphere of commercial activities includes the central and southwestern part of Japan, extending also to Taiwan, Chosen, China, India, and the East Indian Islands. Tokyo, with a population of 2,294,600,² is the distributing center for eastern and northern Japan. A few illustrations will serve to indicate the character of the trade organization that has been developed. Rice, which is produced in all parts of the country, is first purchased by *toiya*, or wholesale dealers, resident in local markets, though sometimes a local middleman intervenes between *toiya* and producers. Large *toiya*, located in the consuming centers, then purchase the commodity from the local *toiya*, and distribute the rice through secondary wholesale dealers in various parts of the country who supply local dealers. Imported rice is purchased from foreign traders by the large *toiya*.

Raw silk, produced almost everywhere in the country but in largest quantities in the drier upland regions, is transferred to exporters mainly by commission merchants at Yokohama or Kobe. These commission merchants also finance the purchase of cocoons by silk reelers in consideration of the consignment to them of the reelers' product. Raw silk for home consumption is, however, usually sold by the reelers directly to the wholesalers in the weaving centers or through local

² The area which might be incorporated as "greater Tokyo" has a population of almost 5,000,000.

brokers or dealers. Silk fabrics for export pass from the hands of local brokers and local wholesale dealers to commission merchants or exporters in Yokohama or Kobe. Silk fabrics destined for home consumption similarly pass through the hands of brokers and wholesale dealers en route to retail shops and department stores in the consuming centers.

Since all of the raw cotton is imported, Japanese cotton merchants maintain branches or agents located in India and the United States. These cotton merchants not only sell to cotton mills in Japan, but in recent years have extended their activities to other countries.

Spinning and weaving centers are found throughout Japan, but the center of the cotton industry is in Osaka, with Tokyo a lesser center. In general, *toiya* in the large distributing centers buy up the product through the commission men and dealers in the weaving districts, and sell it to local department stores or wholesale dealers in the provincial towns. Cotton merchants who import raw cotton also export cotton goods through their offices in Osaka and their branches in distributing centers in India, China, and other places.

The excessive number of small retail establishments is an important source of economic waste. This condition appears to be a characteristic of densely populated countries. In Japan it is explained in part by the prevalence of small-scale industrial enterprises and the survival of old methods of doing business. In any event, there were in 1929 in the city of Tokyo as many as 53,091 retailers handling the necessities of life, or one retail shop for every 9.5 houses and for every 43 inhabitants. In consequence of the small turnover, the profit margin on each unit of goods has to be relatively large if the retailer is to eke out an existence for himself and his family. In fact the living obtained by

the majority is extremely meagre and the situation has been growing worse in recent years. Another factor leading to high cost of distribution is the aversion of housewives to shopping—a survival of old attitudes and customs. The result is that retailers not infrequently solicit orders as well as deliver the goods.

In recent years there has been a strong movement for the elimination of middlemen and the reduction of the cost of goods to consumers. For example, there has been a rapid growth of department stores in Tokyo, Osaka, and other large cities, the business of which is encroaching upon that of petty retail dealers. Consumers' co-operative associations have also been developing rapidly in recent years. Mail-order and other direct-selling practices have, however, not as yet developed, nor has the chain store made its appearance. There are two so-called chain store systems, one in the candy business and one in drugs. The stores are, however, in the main independent establishments which have merely agreed to market the products of a single manufacturer. In many rural communities, however, various types of co-operative associations have been formed in recent years with a view to eliminating the middleman in connection with both sales and purchases. As yet, however, they play a negligible rôle in the total trading operations of the country. The government has also encouraged the establishment of public retail markets in large cities, and as many as 322 were in existence in March, 1929.

III. WAREHOUSES

The marketing of large quantities of goods over wide areas has necessitated the development of extensive warehousing facilities. The remarkable change between the Japan of the late nineteenth century and of today is nowhere better indicated than in the develop-

ment of the warehouse business. The following table shows the increase in the number of warehouse companies and their capital for selected years from 1889 to 1928.

PAID-IN CAPITAL OF WAREHOUSE COMPANIES IN SPECIFIED YEARS ^a
(As of December 31)

Year	Number of Companies	Paid-in Capital (In thousands of yen)
1889.....	7	60
1897.....	100	3,999 ^b
1907.....	273	10,705
1913.....	368	18,021
1926.....	444	123,963
1928.....	424	127,372

^a Japanese Department of Commerce and Industry, *Corporation Statistics*.

^b Estimated figure.

The principal articles stored are rice, textile fabrics, raw silk, sugar, paper, and imported cotton. The relative commercial importance of the principal cities of Japan is roughly indicated in the following table which shows the value of goods stored in warehouses at the end of 1929.³

City	Thousands of Yen
Osaka.....	126,623
Kobe.....	88,249
Yokohama.....	102,107
Tokyo.....	51,875
Nagoya.....	36,700
All others.....	67,699
Total.....	473,253

Warehouses for agricultural products have come to play a rôle of great importance. With a view to making it possible for farmers to hold their crops, the

³ Mitsubishi Warehouse Company, *Report*.

government enacted in 1917 the Agricultural Warehousing Law, and granted subsidies to encourage the building of warehouses by co-operative societies, agricultural associations, and municipal or other corporations interested in the development of agriculture. These warehouses may issue warehouse warrants, make loans on the security of such warrants, and act as agents in the transportation or sale of goods held in custody. These agricultural warehouses are now found in almost every agrarian community throughout the country.

Government rice warehouses were also established by the Rice Control Act of 1921. At the end of 1929 there were 52 rice warehouses having a capacity of 4,134,732 bushels. By the end of 1928 other agricultural warehouses had been built by 2,431 co-operative societies, 90 agricultural societies, 28 public corporations, and 13 villages or towns. The total number of warehouse buildings was 5,019, and the aggregate storage capacity was 30,866,331 bushels.

IV. PRODUCE EXCHANGES

Organized produce exchanges have been developed for trading in rice, cotton yarns, raw silk, sugar, cotton, bean cakes, beans, peas, and other products. In 1929 there were as many as 31 of these exchanges, including 5 which permit trading in securities⁴ as well as produce. Most of them are specialized in character, but 8 engage in trading in more than one commodity.

Whereas in most western countries the exchanges have developed entirely under private auspices, in Japan they have from the beginning been subject to government control. The Exchange Regulation Act was first passed in 1874. The revised exchange law of

⁴ For a discussion of security exchanges, see Chap. IX.

1922 is now the controlling measure. It forbids systematic transactions in margins except on an approved exchange which must be a corporate body with a government charter. The exchange must be either a joint stock company or an association of members. Of the 31 exchanges above mentioned, 26 were joint stock organizations, with a total paid-up capital in 1929 of 98,103,000 yen; and the number of licensed brokers was 923. The five membership exchanges, with 128 members, possessed aggregate membership contributions and reserves amounting to 966,000 yen.

The joint stock form of exchange organization is peculiar to Japan. In the early days the credit standing of the brokers was commonly so unsatisfactory that the joint stock plan was devised as a means of making a company, as distinguished from individual brokers, responsible for damages in case of default on any contracts concluded at the exchange. While the present exchange law does not require the exchange to assume these damages, in practice all of the joint stock exchanges do assume responsibility in the case of future transactions, while with other transactions the amount for which the exchange is responsible is definitely limited. Like other exchanges, the joint stock organization charges fees to the parties engaged in transactions. Brokers are not required to be stockholders, though many of them do possess stock in the joint stock company. In order to be able to assume the risks of loss in cases of default, the joint stock company charges all brokers so-called "caution money," and requires a deposit to cover risks of loss, the amount of the deposit varying with the size of the contract.

The dealings on the produce exchanges consist mainly of transactions in futures. Spot or cash transactions are limited to the Dojima Rice Exchange of

Osaka and to the securities markets. The term of contracts in futures is three months for rice, six months for raw silk and sugar, twelve months for cotton and cotton yarns, and four to five months for bean cakes.

The principal rice exchanges, of which there are 28 in all, are the Dojima Rice Exchange of Osaka, the oldest in existence, and the Tokyo Rice and Produce Exchange. The Osaka exchange owes its importance to its proximity to the Port of Kobe and its location in the greatest distributing center of the country. These two exchanges handled in 1929 as much as 57 per cent of the aggregate sales on the rice exchanges of the country, their quotations playing a dominant rôle in setting the price of rice elsewhere.

Until recently, the only silk exchange in the country was located at Yokohama, the one port which exported silk. As a result of the destruction of Yokohama by the great earthquake and fire of 1923, however, Kobe became an important silk export center, and in December, 1928, the Kobe exchange began trading in silk futures. The official quotations of the Yokohama and Kobe exchanges are taken as standard for silk prices throughout the country, and the prices of cocoons are calculated from these quotations.

The prices of cotton were, until 1927, primarily determined by price changes in American cotton. In this year, however, trading in cotton was opened on the Osaka Sampin Exchange and the quotations there are now a factor in determining the price of cotton. Cotton yarns are traded in on the produce exchanges of Tokyo, Osaka, and Nagoya, the three chief distributing centers for this commodity, the largest volume of transactions being on the Osaka Sampin Exchange. Quotations at Tokyo and Osaka are taken as standard prices.

The first sugar exchange in the country was organized in Osaka in 1925 and the second in Tokyo in 1929,

both as associations of brokers and dealers. Sugar prices in Japan, which were formerly determined by the quotations in Cuban and Javanese markets, are now strongly influenced by quotations on the Tokyo and Osaka exchanges.

The Manchurian bean cake, the staple fertilizer of Japan, was for many years traded in only on the Tokyo Rice and Produce Exchange. In 1927, however, a specialized exchange was organized and established in Kobe, the chief port of importation for this commodity. The Otaru Exchange in Hokkaido permits trading in soy beans, green peas, and other products such as fish guano. Beans and peas fluctuate violently in price and the quotations on this exchange are accepted as standard for the country.

V. TRADE ASSOCIATIONS AND COMBINATIONS

Trade associations in Japan have developed along lines similar to those in occidental countries. A chamber of commerce and industry is found in nearly every important city, the number at the end of 1928 being 77, with a membership of 2,709. All these chambers, in combination with Japanese chambers of commerce located abroad (15 in number), are united in the Japan Chamber of Commerce and Industry, which is comparable in purpose and organization to the Chamber of Commerce of the United States. This national chamber is also a member of the International Chamber of Commerce.

In addition to these general associations for the promotion of commerce and industry, each separate trade is represented by a trade association, organized in accordance with the provisions of the Trade Association Law of 1899. These associations are composed of members who are either fellow traders in an important

product, or closely connected in their trading operations. The functions are rather negative in character, and consist mainly of inspection of products, formulation of codes of trade ethics, of protests to clients who damage the interests of members, and in some cases of boycotts against such parties. In 1928 there were 227 individual associations and four federations of trade associations.

Export traders have been favored with special legislation. The Export Association Law of September, 1925, was designed to stabilize the business of the exporters of a given commodity, or of exporters to a particular market. The associations make investigations of conditions in foreign markets, undertake exportations on consignment, and endeavor in other ways to promote the common interests of the members. Membership in these associations, however, is not compulsory. There were nine such export associations in existence at the end of 1928.

Export merchandise is subject to very careful supervision at the hands of the government. For example, raw silk, before it is permitted to be exported, must pass an examination as to weight at the government silk conditioning house, and silk and cotton fabrics are examined at either public or trade association conditioning houses. Fancy mattings, straw braids, matches, glassware, brushes, hosiery, enamelled ironwares, celluloid combs, canned crabs, etc., cannot be exported unless they meet the standards fixed by the government, the examinations being conducted by the associations or public conditioning houses. Every precaution is taken by the government to prevent errors in the matter of weights and measures. Government licenses are required for the sale of precision instruments.

Industrial combinations for the purpose of stabilizing industry have become a feature of Japanese trade

organization in recent years. These business combinations, which exist in most of the principal industries, seek to promote stability by control of the production and sale of commodities and by the fixing of prices. Only rarely do they engage in the joint purchase of materials or prearrange the market for the products of their members. As in other countries, this movement is regarded as having a mixture of advantages and disadvantages, and it is too early to say what the ultimate results may be.

CHAPTER IX

FINANCIAL ORGANIZATION

A Director of the Mint was appointed in Japan as early as 694 A. D. and copper and silver coins were extensively employed as currency in the eighth and ninth centuries. During the greater part of the Middle Ages, however, when the country was divided among warring feudal lords, the circulation of currency became of negligible importance in the economy of the country. The foundations of the modern currency system were laid in 1601; and, as was indicated in the introductory chapter, the use of money as a medium of exchange, and also in the payment of wages and rents, became widely prevalent in the latter part of the Tokugawa era, playing a vitally important rôle in the gradual disintegration which was taking place in the old economic and social system.

During later feudal times certain types of banking operations were also conducted by so-called merchant families. The principal business of these merchants was that of fiscal agents for the government or for important feudal families; but they also made loans and accepted deposits, as receipts for which they issued notes of various denominations. Some of the leading banking establishments of the present day are directly descended from these old merchant bankers. It appears that there were also money-lenders, sometimes organized in guilds, who made advances on the security of rice crops; and there were certain co-operative societies which extended credit to their members.

It was not, however, until after the restoration of 1868 that a really unified currency system was estab-

lished and that organized banking was developed. In this chapter, we present a very brief sketch of the reorganization of the monetary system and then outline somewhat more extensively the principal features of the financial and banking organization that has been developed to meet the requirements of the expanding commercial and industrial system of the country.

I. THE CURRENCY SYSTEM AND PRICE MOVEMENTS

In the early years of the Meiji era, the bimetallic standard existed in the Treaty Ports and the single gold standard elsewhere. New coinage regulations were promulgated in May, 1871, by which a one-yen coin, weighing 23.15 grains of pure gold, was made the standard unit of value. For the convenience of foreign traders, however, the government also issued a one-yen silver coin which was legal tender only within the bounds of the Treaty Ports. When the price of silver in world markets fell heavily in the middle seventies, Gresham's Law operated to drive gold out of circulation, foreign payments being made exclusively in the more valuable metal. With a view to raising the value of silver, the government, in May, 1878, declared the silver yen legal tender throughout the Empire. But since the price of silver remained low because of world conditions, gold coins continued to be used in the export trade, while for many years the silver yen was employed almost exclusively in daily monetary transactions within the country.

Because of the difficulties involved in operating successfully a bimetallic standard, the government finally decided in 1897 to follow the lead of other countries and establish the single gold standard, which became effective on October 1 of that year. At the same time, the notes of the Bank of Japan, hitherto redeemable in silver coin, were made convertible into gold coin.

The procurement of the necessary supply of gold was greatly facilitated by the receipt in the years 1895-1898 of the Chinese war indemnity of 360,000,000 yen, which was paid in gold in London.¹

During the first quarter century of the Meiji period, government paper money also constituted an important part of the medium of exchange. The notes were issued to cover heavy emergency expenditures which could not be made from fiscal revenues. At first, they were convertible into gold coin; but in 1871 inconvertible notes—pure fiat paper—were issued. Meanwhile, also, newly created national banks were authorized to issue notes, originally convertible into gold, but after 1876 redeemable only in inconvertible government paper. This impossible situation was corrected in the early eighties by the establishment of the Bank of Japan, the withdrawal of the issue privilege from national banks, the requirement that Bank of Japan notes be made convertible into silver, and the gradual retirement of government paper.

By the gold standard law of 1897, the unit of value, the yen, was fixed at 11.574074 grains of pure gold, which is half the weight of the original gold yen. The par of exchange of the yen with reference to the standard units of the United States, England and France, is as follows:

1 yen = 24.58217 pence	1 pound = 9.76317 yen
1 yen = 49.845 cents	1 dollar = 2.00622 yen
1 yen = 12.72265 francs	1 franc = 0.786 yen

The calculations of coinage are according to the decimal system, one yen being divided into 100 parts called sen, which in turn are divided into 10 parts called rin. The table on page 149 shows the kinds of currency in Japan, both metallic and paper, and the legal tender regulations thereof.

¹ See discussion, Appendix A, p. 498.

The note issues of the Bank of Japan, which constitute the great bulk of the currency in use, are redeemable in gold. The Bank of Taiwan notes are redeemable in gold coin, while the notes of the Bank of

THE CURRENCY OF JAPAN

Type	Denomination	Legal Tender Limit
Coins:		
Gold	5, 10, and 20 yen	Unlimited
Silver	20 and 50 sen ^a	10 Yen
Nickel	5 and 10 sen	5 Yen
Copper	1 sen, 5 rin ^b	1 Yen
Bank notes:		
Bank of Japan	1, 5, 10, 20, 50, 100, and 200 yen	Unlimited throughout the Empire
Bank of Chosen	1, 5, 10, and 100 yen	Unlimited in Chosen, Kwantung, and Railway zone
Bank of Taiwan	1, 5, 10, and 50 yen	Unlimited in Taiwan only
Yokohama Specie Bank	1, 5, 10, 50, and 100 yen, and 10 and 50 sen	Unlimited in Manchuria only ^d
Government notes (fractional)	10, 20, and 50 sen	10 Yen

^a There are also a few old ten- and five-sen silver coins outstanding which circulate at their face value.

^b Two-sen copper and one-rin bronze coins were formerly struck.

^c No 50-yen notes have actually been issued.

^d These notes also circulate in China.

Chosen are redeemable either in gold or in Bank of Japan notes. For further discussion of these central banks, see pages 162-64.

The silver notes of the Yokohama Specie Bank were authorized by an Imperial decree of 1906 for the purpose of facilitating Japanese trading operations in

Manchuria where the currency was in chaotic condition. These notes are of three kinds, and at the end of 1929 the circulation was as follows:

Silver yen notes (5,971,704 yen); silver tael notes (21,633 taels); and silver dollar notes (1,802,843 dollars). Manchurian exchange is quoted in terms of silver yen notes and exchangeable with the old silver yen of Japan.

The fractional government notes were called into being by the shortage of subsidiary coins resulting from the great increase in the demand for small change during the period of the World War. With the passage of the boom period in 1920, and the issue of new subsidiary coins, these notes began to be retired, and very few of them are now found in the channels of circulation.

Checks are not so extensively employed in Japan as in England or the United States. Since the Great War, however, their use has been increasing rapidly. While bank notes and subsidiary coins are still commonly used for everyday transactions, the larger business operations are now settled by means of checks. It is estimated that of the total receipts by banks, approximately 75 per cent is in the form of checks.

Inasmuch as Japanese production of gold and silver is comparatively small, the country has been a substantial importer of precious metals. The annual production of gold is at present insufficient for industrial requirements. For the period 1872-1929 inclusive, the net imports of specie equalled 1,012,802,656 yen, of which 991,010,663 yen was in gold. The amount of cash and foreign exchange holdings of Japan, owned by the government and the Bank of Japan respectively, at the end of each year from 1903 to 1929 is shown in Appendix A, page 539. The total showed an enor-

mous increase during the period of the World War, as a result of a great excess of international income over outgo during those years. Since 1921, the amount has declined by nearly 50 per cent. It will be noted from the table in the appendix that a very large part of the total, particularly in the war and early post-war years, was held abroad—that is, on deposit in foreign banks rather than at home. The reasons for this are explained in Chapter XIV. The decrease in the holdings in recent years is chiefly the result of the heavy import surplus since 1920, which has necessitated the utilization of the foreign balances in meeting foreign obligations.

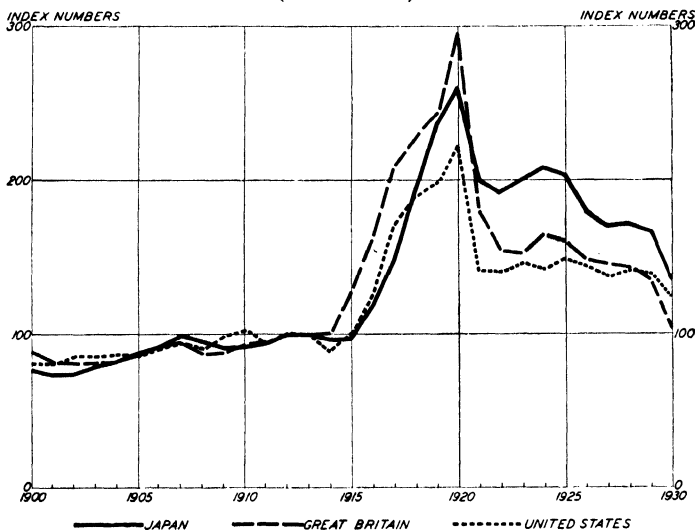
Price fluctuations in Japan have corresponded closely with those of other countries. The movement of wholesale prices since 1900 is shown by the diagram on page 152, which is based upon the index number of wholesale prices compiled by the Bank of Japan. For the purpose of comparison, the trend of wholesale prices for the United States and Great Britain is also shown.

It will be seen that the pre-war trend was very similar in the three countries, with the Japanese index rising slightly more rapidly in the earlier years. The war years showed the same precipitate climb in all three countries; and the post-war peak was reached in 1920, the decline beginning about three months earlier in Japan than in the other countries. The higher level of Japanese prices since 1921 is attributable to the policy of inflation that was pursued and the failure to return to the gold standard—until the end of 1929. For further discussion of this problem see Chapter XVI; and for the movements of foreign exchange see the chart on page 292, Chapter XIV.

II. THE INTERRELATIONS OF THE FINANCIAL SYSTEM

Accompanying, and indispensable to, the development of the complex economic organization of modern Japan has been the growth of various types of financial institutions. Most of these institutions were estab-

WHOLESALE PRICE MOVEMENTS IN SELECTED COUNTRIES,
1900-1930 *
(1913 = 100)



* See Table 39, p. 564, for data.

lished under government leadership, following careful study of the institutions of other countries; and nowhere has the Japanese capacity for selection and adaptation been better manifested. The diagram on page 154 shows the numerous specialized financial institutions of the present day and indicates in a rough way their functions and interrelations, and their relative economic importance. Together, these institutions

constitute a financial structure which supports the entire economic organization of the country.

The financial institutions of Japan may be divided into four main groups: (1) those which are primarily concerned with short-time commercial credit operations; (2) those which are connected with long-term investment operations; (3) those which minister to the needs of small-scale enterprise, urban and rural, sometimes called people's banks; and (4) those whose chief function is to furnish credit to consumers. As we shall see, however, the larger banks of Japan, like those of other countries, are not highly specialized, commonly engaging to a greater or less extent in both short-time and long-term credit operations. Similarly, the smaller institutions combine to some extent productive and consumptive credit operations.

The commercial institutions may be divided into three groups: (a) the three central banks—the Bank of Japan, of Taiwan, and of Chosen; (b) a "special" bank known as the Yokohama Specie Bank, which engages chiefly in the foreign exchange business; and (c) the ordinary commercial banks which supply credit to private enterprises.

The investment banking institutions consist of a series of "special banks," namely: The Hypothec Bank of Japan and the subsidiary Agricultural and Industrial institutions; the Industrial Bank of Japan; the Hokkaido Colonial Bank; the Chosen Industrial Bank; and the Oriental Development Company. In addition there are savings institutions—postal and ordinary savings institutions, both public and private—and trust companies of a distinctly hybrid character. Insurance companies are also important investment agencies. There are no bond houses of the American variety, the nearest approach being some recently developed "instalment sale" security dealers.

BANK OF JAPAN
A CENTRAL COMMERCIAL BANK
Monopoly of bank-note issue. Deals primarily with banks and government

HYPOTHEC BANK OF JAPAN
A CENTRAL INVESTMENT BANKING INSTITUTION

INDUSTRIAL BANK OF JAPAN
A SPECIAL INSTITUTION FOR AIDING INDUSTRY

YOKOHAMA SPECIE BANK
Chiefly devoted to foreign exchange business.

ORDINARY (COMMERCIAL) BANKS
Conducting diversified banking business

BANK OF TAIWAN
A CENTRAL COMMERCIAL BANK

BANK OF CHOSEN
A CENTRAL COMMERCIAL BANK

ORDINARY BANKS

GOVERNMENT TREASURY
Revenues and disbursements handled through Bank of Japan; also handles public market advances to Treasury

TREASURY DEPOSITS BUREAU

HOKKAI DO COLONIAL BANK
AN INVESTMENT INSTITUTION

INDUSTRIAL BANK OF CHOSEN
AN INVESTMENT INSTITUTION

ORIENTAL DEVELOPMENT COMPANY
Promoting enterprises on Pacific mainland

AGRICULTURAL AND INDUSTRIAL BANKS

CENTRAL BANK OF CO-OPERATIVE SOCIETIES

ALLIED CO-OPERATIVE SOCIETIES

CO-OPERATIVE CREDIT ASSOCIATIONS

OTHER FINANCIAL AGENCIES
PARTNERSHIPS, PUBLIC, PRIVATE, MUJIN SOCIETIES, CO-OPERATIVE

LOAN SHARKS

TRUST COMPANIES

BILL BROKERS

BRANCH BANKS AND OFFICES

STOCK EXCHANGE

STOCK BROKERS

REVALUATION SALES COMPANIES

SAVINGS BANKS

INSURANCE COMPANIES

POSTAL SAVINGS SYSTEM

The people's co-operative banks consist of the Central Bank of Co-operative Societies; co-operative credit societies; allied co-operative credit associations; and loan societies called "*mujin*," or "*mujin-ko*." The consumptive credit institutions include both private and public pawnbrokers, and money-lenders or brokers without legal status, of the familiar loan shark variety.

The date of establishment, the number, and the paid-in capital of the various financial institutions of Japan are shown in the table on page 156.

Reference to the diagram on page 154 shows the central position which the Bank of Japan occupies in the entire financial structure. Not only are the central banks of Taiwan and Chosen, the Yokohama Specie Bank, and the ordinary commercial banks connected with the Bank of Japan as an emergency reservoir of credit, but the investment and co-operative credit institutions are also, through their relations with commercial institutions, indirectly connected with the Bank of Japan. The central institution, however, does not occupy as important a position in the credit system as do the central banks of some countries.

Stock exchanges were legally authorized by a law of 1874, and the Tokyo exchange was established in 1877. The development of the exchanges was very slow prior to 1900, but with the growth of corporate enterprise the volume of transactions increased rapidly after the turn of the century. In 1930 there were six security exchanges, of which those at Tokyo and Osaka were of primary importance, while there were five other exchanges which dealt in both securities and produce. There are no curb exchanges.

The number of stocks listed on the Tokyo exchange at the end of 1929 was 265 for trading on the term settlement plan (called "futures" in Japan) and 789

BANKING AND FINANCIAL INSTITUTIONS, 1929
(Capital in thousands of yen)

Classification	Year Estab- lished	Number Exist- ing	Capital or Con- tributions Paid In
I. Essentially Commercial:			
Bank of Japan.....	1882	1	37,500
Bank of Taiwan.....	1897	1	13,125
Bank of Chosen.....	1910	1	25,000
Yokohama Specie Bank...	1880	1	100,000
Commercial, or ordinary, banks	1872 ^a	881	1,381,143
II. Essentially Investment:			
Hypothec Bank of Japan...	1897	1	75,876
Agricultural and industrial banks	1897	24	93,150
Industrial Bank of Japan..	1902	1	50,000
Hokkaido Colonial Bank....	1899	1	12,500
Industrial Bank of Chosen..	1918	1	20,000
Oriental Development Com- pany	1908	1	35,000
Savings banks.....	1880	95	40,577
Postal Savings System....	1875	1	None
Treasury Deposits Bureau..	1885 ^b	1	None
Trust companies.....	1923	37	92,700
Instalment sale security companies	1918	10	987
Insurance companies.....	1878	94	124,522
III. People's Co-operative:			
Rural credit associations...	1900	12,000	143,511
Urban credit associations...	1917	252	36,057
Allied co-operative societies	...	67	12,594
Central Bank of Co-opera- tive Societies	1923	1	26,240
"Mujin" societies.....	^c	260	16,105
IV. Consumptive Credit:			
Private pawnbrokers.....	^c	15,727	50,000
Public pawnbrokers.....	1927	84	1,662
Co-operative pawnbrokers..	1930	1	...
Private money-lenders ^d....	...	...	...

^a In 1876, private financing companies were allowed to style themselves as banks.

^b See discussion, p. 180.

^c Originated before the modern era.

^d No data available.

for spot trading.² This number is a relatively small percentage of the security issues, most of which are handled only by brokers and financial institutions. The development of trading in "futures" on the Tokyo and Osaka exchanges is shown by the following table. The volume of trading is small indeed as compared with that on the leading exchanges of occidental countries.

TRADING IN "FUTURES" (TERM SETTLEMENTS) ON SECURITY EXCHANGES, 1902-1929

Year	Tokyo Exchange		Osaka Exchange	
	Shares Traded (In thousands)	Amount (In thousands of yen)	Shares Traded (In thousands)	Amount (In thousands of yen)
1902.....	2,942	200,287	1,918	96,832
1907.....	12,013	1,191,692	6,216	662,958
1914.....	8,470	577,288	6,652	495,690
1921.....	39,791	3,590,078	16,807	2,534,533
1925.....	38,478	3,153,272	12,394	1,262,343
1929.....	21,156	1,529,027	4,282	421,260

In order to stimulate the development of a bond market, the government in 1920 organized in the Tokyo and Osaka exchanges a special body of brokers, consisting of regular stock exchange and bill brokers and representatives of the Bank of Taiwan, the Bank of Chosen, the Industrial Bank of Japan, and trust companies. In the handling of national government bonds,

² Spot trading is similar to that in the United States, delivery being completed within two days. Term settlements resemble the system used in Europe, though the Japanese plan permits much longer postponement of delivery and settlement.

the Bank of Japan offers its services free of commission. Since 1925, future transactions in these securities have also been permitted.

Stock exchange brokers operate much as in other countries in the purchase and sale of securities that are outstanding in the market. They differ from American brokers, however, in that they also engage directly in the sale of new issues, on rare occasions even participating in the underwriting of such issues. Stock brokers are not held in high social esteem, perhaps as a result of the old attitude toward financial operations in general; and their position in the financial world is relatively unimportant.

The bill broker first appeared in Japan in 1899, and first engaged in call loan operations in 1902. Because a commercial discount market, involving the use of the bank and trade acceptance, has never developed extensively, the bill broker's chief function is that of handling call loans.

The call loan market in Japan differs materially from that in the United States. Practically all of the call loans were formerly made directly by the banks; of late, bill brokers have increasingly played the part of intermediary. The call loan is not employed much in connection with stock transactions, but is chiefly utilized by banks in connection with clearing-house operations and by underwriters in the purchase of bonds and debentures.

III. THE COMMERCIAL BANKING SYSTEM

1. *The Bank of Japan.* The Nippon Ginko was established in 1882 for the primary purpose of unifying the currency system. The bank has a monopoly of note issue and, as the central repository of funds, provides the necessary elasticity of credit in time of crisis. It

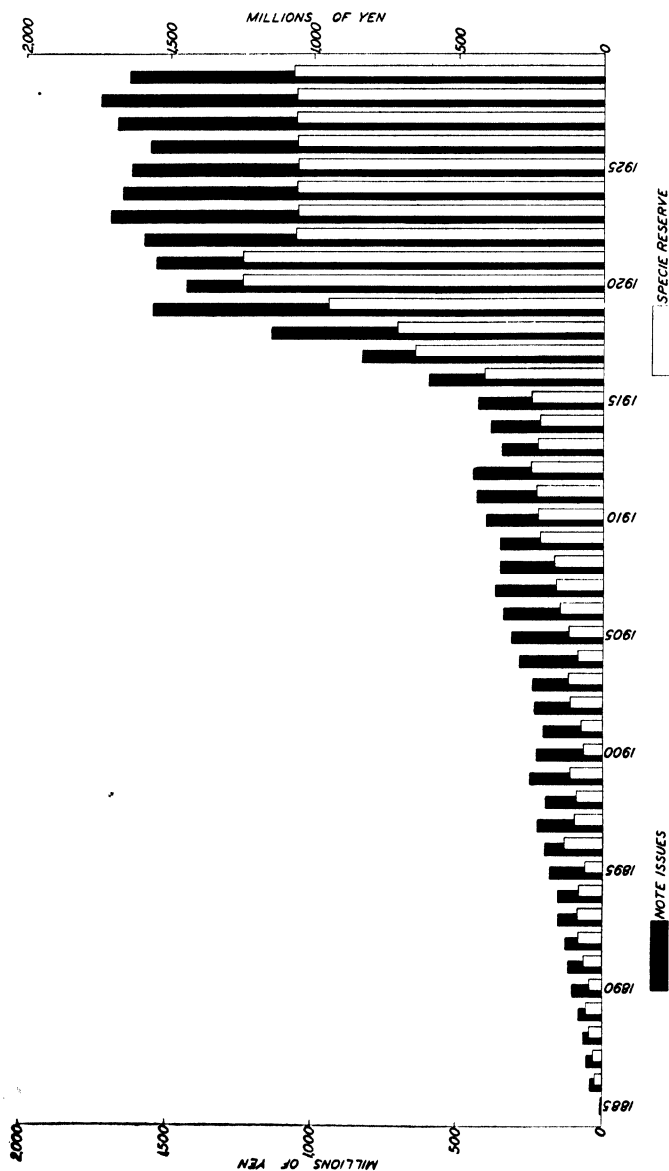
also serves as the fiscal agency of the government, having charge of the funds of the treasury and the administration of government bonds. The stock is owned by miscellaneous individuals, banks, and corporations. The directorate consists of one governor, one vice-governor, and four directors, the governor and vice-governor being appointed by the government, while each director is appointed by the Finance Minister from two candidates nominated by the shareholders. The bank has sixteen branches. To facilitate the management of government funds and bonds, agency arrangements are maintained with a large number of banks widely distributed over the country.

The Bank of Japan is modelled chiefly after the pre-war German Reichsbank, though some features are taken from the Bank of Belgium. It resembles the Reichsbank in that it has the elastic issue system. Notes to any amount may be issued against gold and silver ³ coin and bullion as reserve and to the extent of 120,000,000 yen on the security of government bonds, treasury certificates, other prime securities, and commercial paper. With the sanction of the Finance Minister, however, notes may be issued beyond this limit, though a tax at a minimum rate of 5 per cent per annum is levied on the excess. The 120,000,000 yen limit was set in 1899; and there has been only one year since 1903 when the excess issue privilege has not been utilized.

The bank may discount or purchase government bills, commercial paper, and bills of exchange; buy or sell gold and silver bullion; make loans secured by government paper; receive deposits of money; and accept precious metals and documents for safe-keeping. It

³ Since 1905 only gold has in practice been regarded as proper reserve.

NOTE RESERVE POSITION, BANK OF JAPAN, 1885-1929 *



* For actual figures, including reserve ratio in percentage and total specie holdings of Bank of Japan, see data in Table 40. n. 565

may make advances to other institutions through the discount of domestic commercial bills, and of foreign exchange bills, particularly of the Yokohama Specie Bank and the Bank of Taiwan; it may make loans on paper secured by government bonds, corporate securities, and warehouse receipts. During the banking panic of 1927, the bank also discounted paper secured by claims on real estate and other collateral, under a guaranty by the government of indemnity for possible losses.

The ordinary commercial banks are not required to deposit reserves at the central bank, as are the member banks of the American Federal Reserve System. They may, however, maintain deposits at the Bank of Japan, as the majority of them do. Special banks, private individuals, and corporations are also permitted to maintain deposits, but the private deposits are in fact negligible.

The Bank of Japan maintains a very conservative gold reserve position. The reserve against note issues from 1885 to the present time is shown by the diagram on page 160, which shows the notes outstanding, the specie reserve, and the reserve ratio.

At the end of 1929 the reserve against notes was 65 per cent. The ratio of total specie holdings of the Bank of Japan to notes and deposits combined amounted to approximately 49 per cent, which may be compared to 69.3 per cent for the Federal Reserve banks of the United States, 30.5 per cent for the Bank of England, and 47.4 per cent for the Bank of France, plus 27.6 per cent in holdings of foreign exchange.

The character of the bank's business is indicated by the following table, which presents significant items from the balance sheet of December 31, 1929.

Of the 51,474,000 yen of domestic bills discounted as much as 42,461,000 were secured by collateral, while all of the discounts under the special law of 1927 were secured by collateral loans. Thus it will be seen that the volume of straight commercial paper is relatively

CHARACTER OF OPERATIONS OF THE BANK OF JAPAN,
DECEMBER 31, 1929

(In thousands of yen)

RESOURCES

Loans and discounts:	
Advances on foreign bills.....	30,033
Domestic bills discounted.....	51,474
Discounts (secured under special law of 1927)*.....	598,179
Advances to government.....	22,000
Government bonds.....	221,978
Specie reserve:	
Bullion.....	819,359
Gold coin.....	252,913

LIABILITIES

Deposits:	
Government	392,095
General	152,093
Notes:	
Covered by gold.....	1,072,273
Covered by securities.....	569,578

* Under law No. 55 passed during the panic of 1927. These loans are guaranteed by the government.

small; in fact it is less than the investment in government bonds.

2. *Bank of Taiwan.* This central institution for the colony of Taiwan was established in 1897, two years after this island became Japanese territory. For the purpose of promoting trade relations, it maintains branches in Southern China, Java, and India. While the head office is in Taihoku in Taiwan, the branch office in Tokyo was until the financial panic of 1927 the controlling center. Since the difficulties of that

year,⁴ however, the operations have been confined to the island of Taiwan.

The provisions with reference to note issues are similar to those of the Bank of Japan. Issues not covered by specie may be made up to 20,000,000 yen on the security of government bonds and treasury certificates, Bank of Japan notes, and other prime securities. As with the Bank of Japan this limitation may be exceeded by payment of a 5 per cent tax. Besides issuing notes, the Taiwan Ginko discounts bills and commercial paper; makes loans on securities; deals in foreign exchange; receives deposits; buys and sells gold and silver bullion or foreign currencies; engages in the secured debentures trust business; makes unsecured loans to communities, co-operative societies, or stock-breeding associations.

The Bank of Taiwan also engages in extensive investment banking operations. It may subscribe for, underwrite, or purchase national or local loan bonds, debentures of the Hypothec Bank, the Agricultural and Industrial banks, the Industrial Bank of Japan, and other approved securities. It also takes charge of interest, dividends, and other payments connected with subscriptions for both governmental and corporate securities. The balance sheet of this institution for June 30, 1930, is given in Table 42, page 567.

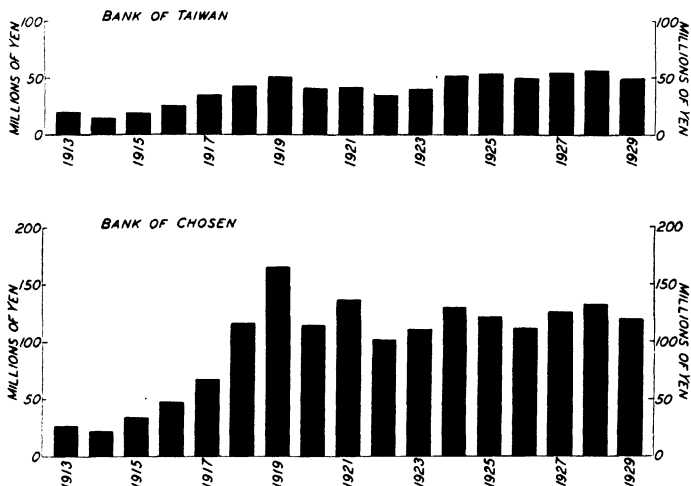
3. *Bank of Chosen.* After the annexation of the Korean Peninsula in 1910, the old Bank of Korea continued to operate under the new name, Chosen Ginko. Besides the head office in Keijo (Seoul) it has 29 branches, some of which are in Manchuria, northern China, and Siberia. Its general functions are similar to those of the Bank of Taiwan. The notes of the Bank of Japan are, however, legal reserve for the note issues. The elastic issue system is used, the limit for

⁴ See discussion, Chap. XVI, p. 309.

uncovered issues being 50,000,000 yen. The balance sheet of the Bank of Chosen for June 30, 1930, is given in Table 43, page 568.

The outstanding note issues of the Banks of Taiwan and Chosen, respectively, at the end of each year from 1913 to the present time, are shown in the following diagrams.

NOTE ISSUES OF COLONIAL BANKS, 1913-1929 ^a



^a See Table 41, p. 566, for data.

4. *The Yokohama Specie Bank.* This "special" bank was established two years earlier than was the Bank of Japan, the government subscribing to one-third of the capital stock. Because of the currency disorganization of the time, foreign trade transactions were seriously hampered and the Yokohama Specie Bank was organized for the express purpose of acting as a central agency for the supply and distribution of specie; hence the name given to the institution. The bank, however, proved unable to regulate the currency situation and the Bank of Japan was shortly organized

for that purpose, the Yokohama institution thereafter for a time devoting itself exclusively to the handling of foreign exchange.

By the new law of 1887 the bank was authorized to: (a) deal in domestic and foreign exchange; (b) make loans and discounts; (c) receive deposits; (d) exchange currencies; (e) buy and sell gold and silver bullion and foreign coins; (f) buy and sell government bonds and handle foreign loans. The bank remains, however, primarily a foreign exchange institution. The directors are elected by the stockholders; and the President and Vice-President are chosen from among the

FOREIGN BILLS HANDLED BY BANKS IN JAPAN, 1928
(In thousands of yen)

Bank	Outward Bills	Percentage Distribution	Inward Bills	Percentage Distribution
Yokohama Specie Bank.....	6,514,183	44.5	6,386,796	51.6
Bank of Taiwan..	811,391	5.5	785,628	6.3
Bank of Chosen..	537,874	3.7	401,487	3.2
Commercial banks	6,764,955	46.3	4,811,965	38.9
Total.....	14,628,403	100.0	12,385,876	100.0

directors, though the President must be approved by the Finance Minister.

As indicated by the table on page 156, this bank is the largest financial institution in Japan, having a paid-up capital nearly three times that of the Bank of Japan. While the nominal head office is in Yokohama, the branch in Tokyo is the actual center of affairs. The operations of the bank are world wide in scope. Its 38 branches extend to Manchuria, China, Siberia, Europe, Africa, North and South America, Australia, and the South Sea Islands. The enormous importance of the Yokohama Specie Bank in connection with the foreign exchange business of Japan is indicated by the table above.

It will be seen that this institution still handles almost 50 per cent of the entire foreign exchange business of the country.

The Yokohama bank maintains very close relations with the Bank of Japan. On the one hand it handles through its branches abroad the foreign banking business of the government and of the Bank of Japan. On the other hand, it resorts constantly to the central bank for the loans required in connection with foreign exchange operations.⁵ The lack of an extensive discount market makes the dependence of this exchange bank upon the Bank of Japan peculiarly close. For balance sheet of the Yokohama Specie Bank, as of June 30, 1930, see Table 44, page 569.

5. *Ordinary commercial banks.* The commercial banking system of Japan began with the establishment of the national bank regulations in 1872. The ordinary banks originally had the power of note issue, the old National Banking System of the United States having been followed as a bad model. With the conferring upon the Bank of Japan of the exclusive right of note issue, the national banks gradually liquidated their notes and by 1899 all of them had become what are called ordinary banks. Their business in general is similar to that of the commercial banks of Europe and the United States. They receive deposits, make loans, discount bills, and buy and sell bills of exchange.

The commercial banks are supervised by the national government. The present regulations were laid down in the Bank Act of 1927. The capital shall be not less than 1,000,000 yen and where the head office, or a branch office, is in Tokyo or Osaka, the capital must

⁵ The specific bills are not discounted by the bank, but loans are made on the security of bills, which are held by the Yokohama Bank. These bills are under the scrutiny of the Bank of Japan.

be not less than 2,000,000 yen. The accounts must be audited twice each year, and a detailed statement of the bank's business must be submitted semi-annually to the government. A sum equal to one-tenth of the profits, whenever any dividend is declared, must be carried to the surplus account until such time as the surplus is equal to the capital. All but 40 of the ordinary banks in existence at the end of 1929 were joint stock companies, the paid-up capital of the private institutions amounting to only 5,186,900 yen.

Branch banking is permitted, and is extensively practiced. The establishment of branch offices, sub-branches, or agencies, is however subject to the permission of the Minister of Finance. The number of branches in existence at the end of 1928 was 5,074.

The banks of Japan commonly have substantial capital and are, moreover, steadily increasing in size. According to the present law, banks must have a capital of at least a million yen; but many of those organized prior to 1927 had a very much smaller amount. The following table classifies the number of banks operating at the end of selected years, according to the size of their capital.

	1915	1921	1929
Under 100,000 yen.....	550	295	70
100,000 to 500,000 yen.....	663	476	176
500,000 to 1,000,000 yen.....	129	290	235
1,000,000 to 2,000,000 yen.....		142	209
2,000,000 yen and over.....	100	128	191
Total.....	1,442	1,331	881

It will be seen that the small banks have been declining rapidly in number, while the larger institutions have been steadily increasing.⁶ The sharp decline in the number of banks in recent years has, as we shall

⁶ Compiled by the Bank of Japan.

see, been due to failures and amalgamations (see page 171).

For purposes of comparison, it may be noted that the average paid-up capital of Japanese banks at the end of 1928 was about 133,000 yen, as compared with about 250,000 yen for all national and state commercial banks in the United States. The surplus accounts of

GROWTH OF COMMERCIAL BANKING, 1913-1929 *
(In thousands of yen)

Year Ending December 31	Number of Banks	Capital		Surplus	Deposits	Loans and Discounts
		Author- ized	Paid In			
1913.....	1,614	567,545	391,761	122,313	1,443,511	1,674,323
1914.....	1,593	575,374	401,200	132,288	1,519,760	1,730,985
1915.....	1,442	513,988	357,709	127,669	1,699,566	1,744,638
1916.....	1,427	525,782	374,480	134,744	2,256,831	2,271,032
1917.....	1,398	659,624	436,996	142,248	3,233,913	3,053,973
1918.....	1,375	772,222	513,086	161,672	4,639,314	4,235,633
1919.....	1,344	1,076,087	717,155	173,648	5,744,096	5,831,591
1920.....	1,326	1,603,117	963,572	267,403	5,826,526	5,979,978
1921.....	1,331	1,703,054	1,044,586	339,073	6,444,836	6,367,468
1922.....	1,799	2,366,284	1,450,227	493,386	7,801,459	7,966,216
1923.....	1,701	2,444,690	1,491,053	543,188	7,805,265	8,150,752
1924.....	1,629	2,437,684	1,507,750	585,229	8,093,167	8,430,782
1925.....	1,537	2,406,560	1,500,627	627,013	8,726,775	9,012,447
1926.....	1,420	2,380,997	1,496,612	663,054	9,178,802	9,385,789
1927.....	1,283	2,364,790	1,481,478	629,115	9,027,897	8,388,629
1928.....	1,031	2,181,902	1,379,060	592,701	9,330,796	7,941,286
1929.....	881	2,170,986	1,381,143	603,858	9,292,294	7,612,849

* Compiled by the Bank of Japan.

the Japanese banks are considerably smaller in proportion to capital than are those of the United States. For all America, state and national commercial banks combined, the surplus account equals 82 per cent of the capital stock paid in; while the surplus and undivided profits accounts together equal 108 per cent of the capital. In Japan the surplus is equal to only about 43 per cent of the paid-in capital. Figures for the undivided profits are not available.

The growth of commercial banking resources and liabilities, as revealed by the significant balance sheet items, since 1913, is shown by the table on page 168.

Advances are made to borrowers in a variety of forms, the chief of which are as follows: (1) loans on or discount of one and two-name commercial paper without other security; (2) honoring overdrafts; (3) loans and discounts secured by stocks, bonds, mortgages, warehouse receipts, etc.; (4) loans and discounts with personal guaranty. The amounts of all loans and discounts classified by security at the end of 1928 was as follows:

LOANS AND DISCOUNTS OF COMMERCIAL BANKS,
DECEMBER 31, 1928 *
(In thousands of yen)

Type of Security	Discounts	Loans
Shares of stocks.....	15,580	1,791,396
Other negotiable securities.....	18,163	703,845
Real estate.....	12,910	1,561,240
Warehouse receipts and merchandise..	66,949	265,403
Various corporate properties.....	38	141,239
Vessels	101	41,960
Others.....	11,062	192,004
Personal guaranty	651,435	700,739
No security	205,020	1,330,811

* Japanese Department of Finance, Banking Bureau, *Annual Report*.

The forms and the methods of making loans in Japan closely resemble those of the United States. Except in the field of foreign trade, the trade acceptance is not commonly employed and the bank acceptance business has not developed. On the other hand, single-name paper, as in the United States, is extensively used; though, unlike the American practice, an added name as a personal guaranty is also frequently required. The granting of overdrafts, which has been

virtually eliminated from American banking practice, is still common in Japan. As the table given above indicates, loans on collateral, particularly on securities, play a very important rôle.

In making loans to business firms, the banks employ the services of commercial agencies and of credit departments of their own; and as in the United States they give attention to the ratio of quick assets to current liabilities. Also an association has been formed for reporting at the request of members on the financial and operating condition of industrial establishments, and for extending correct information among its membership, which is composed of the leading banks of Tokyo, Osaka, and Nagoya.

The relationship of the banks with industries is, however, much closer than is typical in Anglo-Saxon countries. Hence it is probable that credit analysis is on the whole less disinterested than in the United States and Great Britain. In this respect, the Japanese financial system rather resembles that of Germany.

Commercial banks play an important rôle in the accumulation of savings. In addition to the current deposit accounts, there are "special current" and "fixed" deposits. The former differ from the current deposits in that they are withdrawable only by pass-book entries, and are hence less frequently drawn upon than are checking accounts. The minimum balance required is usually ten yen and interest rates are somewhat above those on current deposit accounts. The "fixed" or "time" deposits are not withdrawable before a set date, the minimum period being usually six months. High interest rates ranging from something over 4 to 6 per cent have typically been paid. This form of deposit is much the most important, as indicated by the following table, which shows the classified

deposits of all the ordinary commercial banks as of December 31, 1928. The figures are in millions of yen.

Fixed deposits	5,035
Current deposits.....	1,348
Special current deposits.....	1,965
Other	983
Total.....	9,331

The cash reserves held by the ordinary banks in their own vaults are comparatively large. At the end of 1929, the aggregate cash held by all the commercial banks was 766,330,000 yen as compared with 3,312,-616,000 yen of current and special current deposits, or a ratio of 23 per cent. The banks also have, as secondary reserves, large investments in securities, particularly government bonds. Since they can borrow from the Bank of Japan on government bonds as collateral, as well as through the discount of commercial paper, the cash position of the banks must be regarded as reasonably satisfactory.

The first clearing house organized in Japan was that at Osaka in 1879 and the second was at Tokyo in 1887. At the end of 1929 there were 32 clearing-house associations. The actual settlements of the balances are made by debiting or crediting the balances held for that purpose at the Bank of Japan. The volume of clearings at Tokyo and Osaka in 1929 was 25,070,553,000 yen and 22,374,043,000 yen respectively.

The number of commercial banks of Japan has been declining during the last 15 years, though there was a sharp increase in the single year 1922. This decline has been due in part to failures and in part, in recent years, to a merger movement. An excessive number of small banks were organized in the later years before the war, resulting in close competition in connection with both loans and deposits, and endangering the

soundness of the credit structure. Many of the weaker of these banks have gradually been eliminated through the process of foreclosure, and hundreds of others have merged with larger institutions, particularly since 1926. Reference to the table on page 168 indicates that the number of banks declined from the end of 1926 to the end of 1929 from 1,420 to 881. In 1927 there were 116 commercial bank mergers; 188 in 1928, and 95 in 1929. During these three years there were also 15 savings bank mergers. Connected with the merger process has been the establishment by some of the larger commercial banks of affiliated trust companies. (See page 184.)

Japan, like some other countries, also has its few great banks known as the Big Five. They are: Mitsui; Mitsubishi; Dai-ichi; Sumitomo; and Yasuda. Some of these institutions had their origins in the family trading and banking enterprises of old Japan. The origin of the "House" of Sumitomo was as early as 1591 and of the Mitsui, 1683, though the latter was the first to engage in the business of banking. The deposits of these five institutions together equalled in 1929 as much as 33.5 per cent of all commercial bank deposits. There are seven other large institutions. Financial statements showing the condition of each of the "Big Five" banks as of June 30, 1930, will be found in Table 45, page 570.

IV. INVESTMENT BANKING INSTITUTIONS

Prior to the Chino-Japanese War, the only source of long-time credit for business enterprises was the ordinary commercial bank. With a view to promoting agricultural and industrial development, however, both in Japan proper and in the colonies, a number of investment institutions were organized in the ensuing year.

1. *Hypothec Bank of Japan and Agricultural and Industrial banks.* The Hypothec Bank (Nippon Kwan-gyo Ginko) modelled after the Crédit Foncier of France, was organized to occupy a position in the system of real estate mortgage banking similar to that of the Bank of Japan in the field of commercial banking. The composition of the board of directors is similar to that of the Bank of Japan. The head office is in Tokyo and branches are found throughout the country. It supplies funds not only to the agricultural and industrial banks, but also to the Hokkaido Colonial Bank, the Chosen Industrial Bank, the Oriental Development Company, and to the co-operative institutions (see diagram, page 154).

The operating capital of the Hypothec Bank and the agricultural and industrial banks—and also of the Hokkaido Colonial Bank, the Chosen Industrial Bank, and the Oriental Development Company (see below)—is derived from the issue of debentures. All but the last two may issue debentures up to 15 times their paid-up capital, while the other banks may issue to ten times their capital in hand. In this respect these institutions resemble the Federal Farm Loan and Federal Intermediate Credit banks of the United States. The range and general character of their operations, however, are essentially different.

The principal business of the Hypothec Bank is: to make (a) 50-year amortization real estate mortgage loans; (b) unsecured advances to prefectures and local governments; (c) unsecured loans to a group of not less than ten persons, under joint liability, engaged in agriculture, industry, or fishery in any prefecture where agricultural and industrial banks do not exist; and (d) unsecured loans to co-operative societies and other associations; to subscribe to the debentures of the agricultural and industrial banks, the Central Bank of

Co-operative Societies, the Hokkaido Colonial Bank and the Industrial Bank of Chosen; and to receive deposits of money and accept valuables for safe-keeping. The funds left on deposit can be employed only in connection with operations in keeping with the general character of the bank's business.

The Hypothec Bank has shown a steady growth and plays an important rôle in the economic life of the nation. The character of its business is indicated by the following data, which include the principal items of the balance sheet on June 30, 1930.⁷

Loans	961,269,233	yen
Discounts	10,949,481	"
Deposits	96,275,896	"
Debentures issued	768,092,710	"
Reconstruction certificates.....	81,050,125	"

The *Agricultural and Industrial* banks are local institutions in the field of real estate mortgage credit, virtually subsidiaries of the Hypothec Bank. The capital of each must be not less than 500,000 yen. As a rule, each bank has one prefecture as its business district. The business of these local banks is very similar in character to that of the Hypothec Bank.

While they were organized as separate institutions, the agricultural and industrial banks were early permitted to become agents for the Hypothec Bank of Japan, guaranteeing for the latter the solvency of borrowers in their localities. By a law of 1921, they were permitted actually to merge with the Hypothec Bank, and as many as 22 out of 46 had by the end of 1929 merged with and become branch offices of the Hypothec Bank.

2. *Industrial Bank of Japan.* This "special" bank, called Nippon Kogyo Ginko, was authorized under a law of 1900 for the purpose of supplying capital to

⁷ For the full balance sheet, see Table 46, p. 572.

various industries and public utilities, such as railroad building and harbor construction. The directorate is similar to that of the Bank of Japan. It has a head office in Tokyo and several branches in Japan proper.

The principal business is: (a) to make loans on government and corporate securities; (b) to subscribe for, or underwrite, government and corporation securities; (c) to engage in the secured debentures trust business; (d) to make first mortgage loans on ships, payable in five, or through amortization, in 15 years; (e) to make first mortgage loans on lands and buildings, either factories or residences in certain restricted areas; (f) to discount bills and deal in bills of exchange. A special function of this institution is to issue debentures for "enterprises of public welfare undertaken in a foreign country and designated by the Minister concerned."

The Industrial Bank of Japan is in reality a hybrid institution. It resembles the Hypothec and other mortgage institutions in its real estate financing operations—though it specializes in the industrial rather than in the agricultural field. In its general banking operations, particularly in the making of loans on negotiable securities, it differs little from the ordinary commercial banks. It accepts current and "special current" deposits, fixed deposits, and deposits at notice. The principal items of the balance sheet of June 30, 1930 are given below. For the full balance sheet, see Table 47, page 573.

Loans . . .	310,550,936 yen	Debentures issued	294,325,358 yen
Discounts	68,751,130 "	Deposits	43,005,015 "

The really distinctive features of the Industrial Bank are the making of advances on vessels and trust services in connection with secured debentures. By virtue

of its special character this institution is at times utilized by the Ministry of Finance for the making of loans to industrial enterprises in need of temporary assistance. In this respect it may perhaps be compared with the War Finance Corporation of the United States.

3. *The Hokkaido Colonial Bank.* Since the northern island of Hokkaido was not settled by the Japanese until after the Restoration, it was felt that a special type of banking institution was required for the exploitation of its undeveloped resources. The Hokkaido Colonial Bank was accordingly organized in 1899, and its operations were subsequently extended to Karafuto.

The principal business of the bank is: (a) to make real estate mortgage loans; (b) to make secured loans on bonds and shares; (c) to make secured loans on agricultural and marine products; (d) to deal in bills of exchange; and (e) to subscribe for national and local government bond issues and corporation debentures. The bank has had a steady growth. The amount of loans and discounts has increased from 24,336,000 yen in 1913 to 177,978,180 yen in 1929, and the debentures issued have increased from 15,534,000 yen in 1913 to 96,938,080 in 1929.

4. *The Chosen Industrial Bank.* This colonial bank, established in 1918, is similar in character to the Hokkaido Colonial Bank and performs a comparable service in the economic development of Chosen. The head office is in Seoul. The amount of loans and discounts increased from 29,839,000 yen in 1918 to 267,708,888 in 1929, while the debentures increased during the same period from 3,000,000 yen to 199,685,000 yen.

5. *The Oriental Development Company.* This institution was organized in 1908 for the purpose of supplying colonization funds and developing enterprises in

Chosen and foreign territories, principally in Manchuria. Its head office is in Tokyo—with branches in Chosen, Manchuria, and elsewhere. The powers of this company are similar to those of the other mortgage credit institutions, particularly the local agricultural and industrial banks. Like these, it acts as guarantor for the Hypothec Bank of the credit of borrowers in the communities it serves. The loans and discounts stood, at the end of 1918, at 32,914,000 yen and in 1929 at 124,898,930 yen. The debentures issued increased during the same period from 65,944,000 to 172,976,225 yen.

6. *Savings banks.* All savings banks in Japan must be joint stock companies, with a minimum capital of 500,000 yen. A savings bank has the right of receiving individual deposits of any amount at compound interest. As a rule, savings deposits are for a fixed term. Demand deposits may be received from public agencies and co-operatives.

The investment and loan operations of savings banks are carefully restricted by law. Such banks may subscribe for, underwrite, or purchase national or local bonds, debentures, and stock of private corporations approved by the Finance Minister, and they may also make loans on such securities as collateral. They may make loans on real estate mortgages and purchase bank acceptances. Loans to depositors are limited to the extent of each individual's deposit account. There are also restrictions designed to prevent too great a concentration of investments or loans in particular enterprises or lines of business. As a guaranty for the repayment of deposits, the savings banks are required to deposit government bonds, or other securities approved by the Finance Minister, with a depositary office in the Department of Justice, to the extent of one-third of the total amount of deposit. Directors are, moreover,

under joint unlimited liability for the obligations of the bank, the liability lasting for two years after resignation.

The number of savings banks has decreased in recent years, chiefly as a result of the establishment of more rigid restrictions under an amendment of 1921. The number of institutions and the principal items in their consolidated accounts are shown by the following table.

SELECTED BALANCE SHEET ITEMS OF SAVINGS BANKS, 1893-1929 *
(In thousands of yen)

Year	Number of Banks	Paid-in Capital	Surplus	Deposits	Loans	Investments
1893....	24	567	591	6,035	3,421	2,133
1910....	646	87,758	70,397	277,683	171,863	88,806
1920....	661	320,308	92,658	1,843,000	1,597,592	380,151
1922....	146	33,659	15,549	651,245	185,982	305,511
1926....	124	41,138	27,414	1,067,551	264,676	603,658
1928....	100	40,722	33,711	1,249,934	348,744	782,211
1929....	95	40,577	34,638	1,421,887	406,638	895,864

* Japanese Department of Finance, Banking Bureau.

Deposits in savings institutions are of three kinds: those repayable on demand, which are relatively unimportant in amounts; those repayable at the end of a fixed period; and those made on a monthly instalment plan covering a certain stated period of time. In the last-named case, the bank agrees that upon the completion of the instalments it will repay the amounts with interest on all deposits received; and what is more important, it agrees to loan to the depositor the full amount of the deposits agreed upon. This device was intended to make the savings bank an important source of funds for the middle and lower classes. Such loans in the aggregate are around 75 per cent of the total

loans. Practically half of the total deposits are made with the instalment payment feature.

7. *Postal Savings system.* This system was established in 1875, simultaneously with the postal money order, both being adapted from the British and Belgian models. Though the development was very slow for many years, deposits have grown rapidly since the period of the World War. The deposits are of three kinds: (1) those subject to withdrawal on demand or at short notice; (2) those subject to withdrawal only after a period ranging from three to ten years, and on which a higher interest rate is paid; and (3) those received in monthly instalments during a certain stated period and not subject to withdrawal during that period. The minimum deposit is 10 sen (the balance cannot be less than 50 sen), and the maximum account allowed is 2,000 yen, except for public bodies and co-operative societies.

The postal transfer accounts are closely related to the postal savings system. The transfer system was established in 1906 and was modelled after the Giro-Transfer Plan of Austria. Any depositor may designate that funds from his account be transferred to that of another depositor or to a non-depositor; and a non-depositor may use the system in making payments to a depositor. The purpose of the system is to facilitate remittances of small sums between different cities, and is used particularly in connection with pensions, interest on public utilities, taxes, assessments, and duties.

The volume of postal savings and postal transfer accounts for selected years is shown in the table on page 180. It will be seen that the increase both in the number of depositors and in the amount of the deposits has grown with great rapidity in recent years. The volume of deposits is about one-third greater than those of the regular savings banks. Almost 60 per cent

of the entire population are depositors in postal savings institutions. The postal savings deposits in the United States on June 30, 1930 aggregated only \$175,271,686 (about 350,000,000 yen) ; and the number of depositors was only 466,401, or less than one-half of one per cent of the population.

8. *The Treasury Deposits Bureau.* Reference to the diagram on page 154 indicates that the postal savings are handled by a so-called Treasury Deposits Bureau; and accordingly this is a convenient place to discuss this

POSTAL SAVINGS AND POSTAL TRANSFER ACCOUNTS, 1897-1930 *
(In thousands)

Year Ending March 31	Postal Savings		Postal Transfer	
	Number of Depositors	Amount Deposited (Yen)	Number of Depositors	Amount Deposited (Yen)
1897.....	1,279	28,479	—	—
1907.....	7,414	81,939	7	1,361
1914.....	12,890	199,652	61	9,340
1919.....	20,088	605,480	121	26,299
1924.....	28,834	1,132,532	218	47,255
1929.....	36,485	1,863,703	275	55,836
1930.....	38,139	2,111,637	268	58,025

* Japanese Department of Communications, *Statistical Year Book of the Savings Bureau*.

unique feature of the Japanese financial system. In 1877 the government established in connection with the Department of Finance a deposit bureau for the management and employment of the idle or surplus funds of the treasury. In the following year the postal savings were also deposited in this bureau. After the establishment of the Bank of Japan in 1882, however, the general surplus of the treasury was transferred to the bank where it is held on deposit. General regulations for the administration of the deposit bureau were promulgated in 1885, and revised in 1925. The bureau now

handles the postal savings and transfer accounts, the funds belonging to so-called special budget accounts of the government (see Chapter XI, pp. 203-6), and certain other minor deposits designated by law.

The volume of business managed by this bureau has grown to enormous proportions, owing principally to the remarkable development of the postal savings business. On March 31, 1930, the deposits of the bureau amounted to 2,508,727,000 yen, of which 2,169,662,000 yen represented postal savings and postal transfer accounts. The funds of the Treasury Deposits Bureau are in part invested in national and local government bonds and other securities, and in part loaned out at comparatively low rates of interest for enterprises of economic, social, and political importance. Balances not thus invested are held on deposit with the Bank of Japan. On March 31, 1930, the loans and investments stood as follows:

	Yen
Government bonds.....	783,352,000
Other securities.....	1,151,826,000
Loans	543,931,000
Deposits in the Bank of Japan.....	298,636,000

It will be seen from the magnitude of these loans and investments that this bureau plays a very important rôle in the utilization of accumulated savings. It is, moreover, of great importance to the government in connection with the flotation of bonds or short-term treasury obligations. Indeed, because of the existence of this bureau the treasury has little need to borrow from the central bank, as has so often been done in other countries. The deposits of this bureau also constitute a convenient reserve which the government may utilize as loans for relief or emergency purposes. The existence of such a fund, however, constitutes an encouragement to private interests to seek relief from

the government, and also perhaps an inducement to financial extravagance on the part of the government.

9. *Trust companies.* The organization of trust companies in Japan was not authorized by law until 1922. A number of private companies engaging in trust operations, however, had been organized prior to that date, the first making its appearance in 1906. These early companies were subject only to the regulations of the general commercial code. Since the new trust company act became effective, in January, 1923, the growth of these institutions has been extremely rapid. At the end of 1929 there were 37 companies having paid-up capital amounting to 92,700,000 yen and surplus funds to the extent of 18,968,000 yen. The size of the typical trust company in Japan, as in the United States, is relatively large, the average paid-up capital and surplus amounting to 3,018,000 yen.

Trust companies may receive in trust, money, securities, claims, personal property, and leases; they may act as guarantors for debts; they may float securities, act as custodian, and handle interest and dividend payments; they may act as intermediaries in the sale or lease of real estate and in the making of loans on real estate; and may conduct agency service in a wide range of activities. Trust companies are also authorized to: subscribe to security flotations; make loans to business enterprises, public corporations, and co-operative societies; purchase bills accepted by banks or trust companies; purchase property, real or personal; and make deposits with banks or post offices. The trust companies are subjected to official examination; and are required to put up government bonds equivalent to not less than 10 per cent of their capital as a guaranty against losses caused by failure to fulfil the terms of the trust.

The nature of trust company business is indicated by the following consolidated balance sheet for November, 1929. It will be seen that the volume of loans is roughly double the amount of investments in securities.

CONSOLIDATED BALANCE SHEET OF TRUST COMPANIES,
NOVEMBER 30, 1929
(In thousands of yen)

ASSETS	
Loans on bills and on credit.....	324,658
Other loans	566,439
Investments	447,696
Securities loaned	28,888
Real estate	29,355
Superficies	11
Leases on land.....	—
Cash and deposits.....	33,412
Others	7,437

Total Assets..... 1,437,899

LIABILITIES	
Money in trust.....	1,168,882
Other trust funds.....	14,771
Securities in trust.....	198,495
Claims in trust.....	28,227
Real estate in trust.....	27,509
Superficies in trust.....	11
Leases on land in trust.....	—

Total Liabilities..... 1,437,899

The trust companies of Japan, unlike those of the United States, are prohibited from engaging in general banking business. Observation of the items "money in trust" and loans and investments" in this balance sheet, however, indicates that the trust companies have, in fact, developed essentially as financial institutions. The money in trust, that is, deposited, differs little from the time or fixed deposits of the commercial banks,⁸

⁸ The term for trust deposits of money must be at least two years, and the minimum amount 500 yen.

and the trust companies compete directly with the banks in the making of loans.

Many commercial banks have in recent years organized trust companies of their own. Indeed most of the principal trust companies are now affiliated with the leading commercial institutions. The explanation of this trend is that the trustee business has been prosperous and that the trust companies, by being able to offer higher interest rates on deposits, have also enjoyed a competitive advantage over the commercial banks. Being forbidden by law to engage directly in the trust business,⁹ the commercial banking institutions have elected to organize affiliated companies. This development closely resembles that in the United States, where trust companies and also savings banks, security corporations, etc. have been organized by commercial banks as affiliated companies.

10. Insurance companies. The general discussion of the development of the insurance business in Japan is presented in Chapter X. So important, however, is the rôle which these institutions play in collecting savings and in transferring them to government and corporate borrowers that it is desirable to present at this place the data as to their investments.

The funds of life, fire, and marine insurance companies on March 31, 1929 were invested as follows: security holdings, 845,573,000 yen; loans, 325,719,000 yen; and bank deposits, 295,880,000 yen. The securities are classified as follows:

	Yen
National and local government bonds.....	168,163,000
Debentures	336,386,000
Stocks and shares.....	324,678,000
Others	16,343,000

⁹ The only exception is the handling of secured debentures, by special permission from the Minister of Finance.

A species of investment trust has recently been established in the insurance field. A group of 22 important life insurance companies has recently organized the Life Insurance Securities Company Limited for the purpose of buying and holding reliable stocks for the joint investment of life insurance companies. In view of the restricted market for high-grade stocks, this development is of real significance. The institution does not, however, have a permanent charter.

11. *Underwriting and bond distribution.* The investment banking business of Japan is conducted by essentially different methods than those which prevail in the United States. There are no important bond houses as such, the sale of securities being handled chiefly by the commercial banking institutions, the trust companies, and the special industrial banks. Because the financial institutions are themselves the largest purchasers of securities and because of the lack of a broad investment market, there are no elaborate bond distributing organizations such as are found in the United States.

The first underwriting syndicate to be organized by banks in Japan was for the purpose of underwriting government bonds issued in 1910. A portion of the issue was also underwritten by spot securities dealers. At the present time all large government and private corporation issues are usually underwritten by a group of institutions; but smaller bond issues are usually taken up by individual banks or trust companies. In the case of stock flotations the entire issue, or the great bulk of it, is commonly taken directly by promoters and those associated with them and an underwriting syndicate is not required.

In the United States and in Europe, it is a common practice for large investment banking institutions or a group of them acting together to purchase a bond or stock issue outright at wholesale, receiving for their

services a commission as organizers and original risk takers in the bond selling enterprise. These houses of first purchase then offer the issues to a much larger group of investment institutions which participate in the underwriting. In Japan, this practice is seldom found. The underwriting group merely guarantees to take over an issue that is not sold to the public within a period agreed upon.

The Instalment Sales companies are the only financial intermediaries that might be classified as bond houses. These companies were first subjected to government control by an act of April 1, 1918. The minimum capital requirement is 100,000 yen, of which 50,000 must be paid up. They operate under a license from the Finance Minister, to whom they must make reports semi-annually.

The purpose of these companies is to encourage thrift among the poorer classes and to develop the habit of making savings in the form of security purchases. Their operations are limited to the sale of bonds, debentures, and other negotiable paper. These institutions have not fared well, however, since the establishment of legal control. Between 1920 and 1928 the number of companies declined from 26 to 10 and the paid-up capital from 1,703,000 to 987,000 yen, while the amount of contracts for the sale of securities by instalments declined from 26,934,000 to 6,102,000. The aggregate business of these instalment houses is thus very small in volume and rapidly declining in importance.

V. PEOPLE'S CO-OPERATIVE INSTITUTIONS

Co-operative credit institutions have come to play an important rôle in the financing of small-scale enterprise, both urban and rural, and in the encouragement of thrift among the masses of the people. There are two clearly defined types: the credit unions or

co-operative societies; and the "mujin" or mutual loan associations.

1. *Co-operative credit associations.* These associations are found in both urban and rural communities, the former being authorized in 1900 and the latter in 1917. There are some 2,600 credit societies which devote themselves exclusively to the receiving of savings deposits from and the making of loans to members, while there are about 9,750 other societies which engage in additional activities. The number in 1913 was 8,530 and the membership 954,013, and by 1929 the number had increased to 12,352 and the membership to 3,637,335. Since 1917 these societies have been allowed to receive deposits from public corporations and enterprises, and from the families of members. These outside deposits have grown rapidly and now comprise 40 per cent of the total. The working capital is derived mainly from deposits, though, in part, it comes from membership contributions and loans.

The rural associations are of much greater importance than those in urban centers. The number of rural unions in 1929 was 12,100, with a membership of 3,407,130, while the urban unions numbered only 252, and the membership 230,205. The relative importance of the two types of associations, as revealed by principal items of the balance sheet, is shown by the following figures in thousands of yen:

	Rural	Urban
Capital paid in.....	143,511	36,057
Deposits of members.....	515,293	72,056
Deposits of non-members.....	351,354	72,906
Loans due.....	736,551	109,997
Bills discounted.....	—	17,557
Deposits in other banks.....	...	42,664

It is of interest to note that the deposits of non-members in the rural banks, though not authorized

until 1917, now equal more than 60 per cent of the member deposits, and that in the urban unions they slightly exceed those of members. These institutions are thus in some measure general investment banking agencies.

2. *Allied co-operative credit associations.* A number of so-called allied co-operative credit associations have been formed in recent years. They are organized by the co-operative credit societies themselves for the primary purpose of supplying capital to and receiving deposits from the credit societies, thus facilitating the flow of funds between individual credit societies, and promoting their more effective employment. These allied associations may also guarantee obligations of the member societies to the Central Bank of Co-operative Societies and to the Hypothec Bank. While the number of these associations is still small—only 67 at the end of 1929—the volume of business transacted has increased seven-fold since 1919. The volume of deposits in 1929 was 135,172,000 yen, while the loans outstanding amounted to 59,191,000.

3. *Central Bank of Co-operative Societies.* This Central Bank, or chest, as it is sometimes called, was organized in 1923 for the purpose of articulating the credit associations in a system comparable to that of the commercial and mortgage banking system. Its function is thus analogous to that of the Bank of Japan and the Hypothec Bank. It not only facilitates the flow of funds among the Credit Societies and allied Credit Associations, but it provides funds for seasonal requirements, and it also furnishes what has come to be called in the United States "intermediate credit," that is, loans which fall midway, in point of time required for their liquidation, between commercial credits and mortgage loans. Loans are made for periods not exceeding five years.

The capital of the Central Bank of Co-operative Societies is contributed by the co-operative societies, the allied co-operatives, and the government of Japan. The Central Bank is authorized to issue bonds to an extent not exceeding ten times its paid-up capital; and it receives deposits both from credit associations and from public corporate bodies. The character of the bank's business is shown by the following figures for March 31, 1930:

Capital paid in.....	26,240,000	"
Surplus	1,991,000	"
Debentures issued	24,210,000	"
Deposits	41,012,000	"
Loans	48,702,000	yen
Bills discounted	555,000	"

The Central Bank of Co-operative Societies is subject to the supervision of both the Finance Minister and the Minister of Agriculture and Forestry. By virtue of its standing, it can borrow from other banking institutions; and thus links the co-operative credit institutions up with the general credit structure of the country.

4. *The "mujin" loan companies.* The so-called "mujin" institutions are of ancient origin, and appear to be peculiar to Japan and China. Originally they were organized and managed by private individuals and were known as "mujin-ko." About 80 per cent of the mujin enterprises of today are, however, organized as joint stock companies, the private enterprises being of negligible importance.¹⁰ The principles of operation are the same in either case. Their function is to furnish capital for productive purposes to merchants, farmers, and manufacturers of small means.

¹⁰ By a law of 1931 all mujin business must, after five years, be conducted by joint stock companies with a minimum paid-in capital of 15,000 yen.

The methods of operation differ somewhat, but a typical illustration will serve to disclose the essential principle. The company forms an association, consisting of, say, 120 subscribers who meet at regular stipulated periods, say, monthly, and contribute 45 yen each. This would create each month a loan fund of 5,400 yen—of which 400 yen would be retained as a margin for safety and for expenses. A 5,000 yen loan may then be made either on a drawing or a bidding system.

Under the drawing system, the lucky person gets a loan of 5,000 yen, without interest. He must, however, make his contributions in each succeeding month, and he is ineligible to compete in subsequent draws. Eventually, every member will receive a loan; and in due course every loan is liquidated by the borrower's own subsequent instalments. Those who win the draw in the early months obviously save something in interest, while those who are not successful until late in the game lose proportionately. The lottery, it will be seen, does not involve the principal of the loan. The successful drawer may not, of course, immediately require the loan, and he is accordingly permitted to sell his loan privilege to another member who is in need of the money.

Under the bidding system, the lottery involves both the interest and the principal of the loan. Inasmuch as the need of the various subscribers for a loan may differ greatly in intensity, this system is arranged so that the one with the greatest need is able to obtain the loan, at a sacrifice of principal. This sacrifice is the difference between 5,000 yen, the maximum principal possible (under our illustration) and the amount which he is willing to accept in order to obtain the loan at this particular meeting. Accordingly, the bidding, which is by secret ballot, is on the amount of the deduction that each is willing to accept; the highest bidder, that is the

one who is willing to accept the greatest deduction on the principal, is awarded the loan. It is legally provided that the minimum bid must be 70 per cent of the maximum available. If the loan amounts to, say, 4,000 yen, the difference would be available for immediate distribution among the subscribers. In fact, it is legally provided that 80 per cent shall be immediately redistributed. As in the case of the drawing system, those who obtain the loan in the earlier meetings save something on interest; but they are here penalized by the smaller principal obtained. Those who procure the loans in the later meetings lose something in interest; but since the amount of the loans grows larger as the competition in the bidding lessens, they receive on account of principal more than they contribute through their instalments.¹¹ On balance the cost of the money borrowed is greater to those who procure accommodation early in the series of meetings.

The element of luck in the mujin scheme makes a strong appeal to the Japanese, and the business has shown a steady growth in recent years. The number of companies has increased from 136 in 1916 to 260 in 1929. During the same period, the number of subscribers increased from 235,000 to 1,437,788 while the capital expanded roughly fivefold. The total outstanding loans of the mujin companies at the end of 1929 amounted to 444,891,827 yen.

VI. CONSUMPTIVE CREDIT AGENCIES

In a country where great masses of the people are near the margin of subsistence, the opportunity for the extension of pure consumption credit is inevitably large. The greater part of such credit usually takes the form of retail sales on time, but there is also a need of and opportunity for consumption loan agencies. In

¹¹ This is the Osaka system; others vary somewhat.

Japan, both private money-lenders, or loan sharks, and pawnshops have long been engaged in financing people hard pressed for current funds.

1. *Pawnbrokers.* Pawnbroking establishments are of three types, private, public, and co-operative. Private pawnbrokers have long played an important rôle in furnishing consumptive credit to persons in urgent need of accommodation. As in other countries, they make loans against chattels and personal belongings. The number of these establishments at the end of 1928 is estimated at 15,727 and the total loans made that year at 144,000,000 yen. The loans usually run to about three times the amount of the capital resources, which would make the total capital involved approximately 50,000,000 yen.

Public pawnshops were authorized by a law which empowered public bodies and organizations of social workers to operate pawnshops as a social service rather than for profit. They are under the general supervision, or management, of cities, towns, and villages. In order to make it possible for these public pawnshops to advance credit at moderate rates, the Treasury Deposits Bureau and the Post-Office Life Insurance make loans to these pawnshops at low rates of interest. At the end of May, 1928, there were 51 public bodies and organizations operating pawnshops and the number of separate establishments was 84. Their aggregate capital was 1,661,650 yen, and 967,259 yen were borrowed from the Treasury Deposits Bureau and the Post-Office Life Insurance funds.

A co-operative pawnshop, probably the only one in the world, was organized in 1930 in Tokyo in connection with a co-operative credit union. This pawnshop division makes loans only to the members of the union. The rates are as low as from 7 to 10 per cent, varying

with the duration of the loan, and the first month's operation showed a thriving business.

2. *Private money-lenders.* In Japan, as in most other countries, the private money-lender has exploited his opportunities to the full. The law fixes the maximum rate of interest that can be charged on loans, and forbids rates in excess of these limits as usurious. The maximum charges allowed run from 10 per cent for sums over 1,000 yen to 15 per cent for sums under 100 yen. Private money-lenders nevertheless commonly charge rates which amount to more than 100 per cent.

Ingenious methods designed to avoid the appearance of usurious rates are employed in making and collecting loans. At the time the loan is made there may be a deduction in advance not only of the interest but also from 10 to 20 per cent of the principal by way of commission, with further deductions in case of renewals. Or, where monthly rates are applied, interest for two months may be charged for money lent near the end of one month and collected early in the next, and similarly a double charge may be made in a month where a renewal is granted. Loans are usually made, however, for three-month periods with payments on account of interest and principal being required monthly, semi-monthly, or daily. The last-named method of payment is, of course, most common with petty borrowers, agents being sent out daily to collect the instalments. When loans are extended, further deductions may be made.

No data are available as to the probable volume of business annually transacted by these private money-lenders but it is believed to be very large. Little progress has been made in combating directly the loan shark evil; but the development of public and co-operative pawnshops should provide effective competition. Thus

far, personal loan departments of commercial banks, such as have developed in the United States in recent years, do not appear to have been established.

The Japanese financial structure is thus on the whole comparatively well rounded. The principal lacks are in the machinery of bond distribution and the restricted operations permitted by the stock exchange. Certain questions of credit organization and control and the problem presented by the prevailing high interest rates will be discussed in Chapter XXII.

CHAPTER X

INSURANCE

The evolution of large-scale profit-making business enterprise in Japan made it necessary either that insurance against commercial risks be taken out with foreign companies, or that the insurance business be developed within Japan. As we shall see, the growth of Japanese insurance companies has kept pace with the development of railroads, shipping, industries, and large-scale commercial organizations.

The pioneer in the field of insurance was the Tokyo Marine Insurance Company, formed in 1878. The year 1881 witnessed the inauguration of the life insurance business; but owing to peculiarly difficult technical problems no fire insurance companies were organized prior to 1889. The rapid development of insurance came following the Chino-Japanese War. By 1902 there were more than a score of fire insurance companies and as many as 37 companies in the life insurance field. There were also three foreign life insurance companies. With the growth of shipping during this same period, marine insurance showed a similar expansion. A national law governing insurance, known as the Insurance Business Law, was enacted in 1900, and in 1901 foreign insurance companies operating in Japan were subjected to restrictive regulations.

In Japan, as in other countries, many new forms of insurance have come into existence since 1900. Transport insurance was started in 1902; military service insurance in 1904; fidelity insurance in 1907; engine and boiler insurance in 1909; casualty insurance in 1911; automobile insurance in 1914; and burglary

insurance in 1916. As a part of a social insurance scheme, the government inaugurated, in 1916, post-office life insurance, and in 1926 a post-office annuity, which is a form of endowment insurance. In 1927, for the protection of the laboring classes, a system of health insurance was established.

The relative importance of the various kinds of insurance at the end of March, 1929 is shown by the following table.

THE INSURANCE BUSINESS CLASSIFIED, MARCH, 1929^{*}
(In thousands, except first column)

Kind of Insurance	Number of Companies	Paid-in Capital	Reserves	Contracts in Force		Premiums Paid in During Year	Claims Paid During Year
				Number	Amount		
Life.....	40	21,745	1,031,959	4,968	6,052,613	254,439	77,614
Military service..	4	3,675	97,066	919	487,490	20,194	675
Casualty.....	6	41,790	630	52	101,166	410	192
Fire.....	50	99,965	98,506	12,463	15,635,339	83,218	28,319
Marine.....	35	82,866	69,349	517	1,166,789	27,176	18,487
Transport.....	29	77,115	2,162	78	258,249	1,132	179
Fidelity.....	1	3,125	56	2	4,914	88	18
Engine and boiler	1	125	44	1	4,693	80	...
Automobile.....	5	35,540	1,795	52	31,186	1,169	355
Burglary.....	2	34,000	264	32	7,236	58	34
Window glass....	1	30,000	100	...	25	1	—

^{*} Japanese Department of Commerce and Industry, Bureau of Insurance, *The Insurance Year Book*.

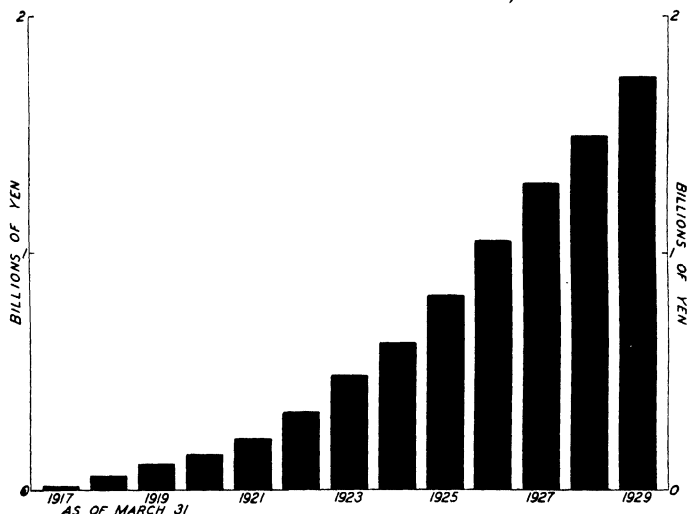
In the following pages we present the essential facts with reference to the development of the principal forms of insurance.

I. LIFE, FIRE, AND MARINE INSURANCE

The growth of the life insurance business since pre-war days has been comparatively rapid. The value of the new contracts let in the fiscal year 1913-14 was 278,000,000 yen; in 1923-24 it was 700,000,000 yen; and in 1928-29, 1,213,000,000 yen. Fire insurance has shown a similarly rapid growth and greatly exceeds life insurance in amount. Marine insurance developed

with great rapidity during the war-time trade and shipping boom, slumped sharply during the early post-war years, and again slowly expanded after 1923. Since the bulk of marine insurance is on cargo rather than on ships it tends to fluctuate with the total volume of trade rather than with the condition of the shipping industry.¹

GROWTH OF POST-OFFICE LIFE INSURANCE, 1917-1929 *



* For actual figures on contracts and other financial data, see Table 49, p. 575, for data.

II. POST-OFFICE LIFE INSURANCE

This insurance, which is conducted through some 8,000 post offices throughout the country, is under the direction of the Minister of Communications. In order to avoid competition with private companies, the amount of insurance is calculated on the basis of the premium

¹ For table showing the value of new contracts annually made for life, fire, and marine insurance, see Table 48, p. 574.

—the maximum being fixed at 450 yen. No medical examination is required for the contract. In order to prevent fraudulent contracts, in case of the death of the insured within one year, the amount of the insurance is limited to the actual amount of the premiums paid in; and in case of death within two years, it is limited to half the amount of the insurance. These are the principal respects in which postal life insurance differs from private life insurance. The growth of the post-office insurance is shown in the diagram on page 197, based on the value of contracts outstanding at the end of each fiscal year.

Since 1919 the value of the contracts outstanding has increased tenfold. New contracts let annually increased rapidly until 1925, but since then the growth has been negligible. The number of insured persons for each 1,000 of the population has increased from 29 in 1919 to 198 in 1929.

III. SOCIAL INSURANCE

The only form of social insurance deserving of mention is health insurance, which was established by a law of April, 1922, with a view to the protection of the laboring classes. It is under the direction of the Department of Home Affairs. As a result of the earthquake of 1923 actual operation was, however, postponed until January, 1927. This insurance is compulsory for all employees in factories and workshops coming under the control of the factory or mining laws (exclusive of clerical workers with an annual income of over 1,200 yen), while it is voluntary for those in civil engineering, transport, and other specified businesses.

The insured is entitled to receive during enforced idleness resulting from illness or accident attributable to his work 60 per cent of his regular wages, and free medical care for a period not to exceed 180 days. In

case of child-birth, a working mother receives 60 per cent wages, together with an allowance of 20 yen, for 10 or 11 weeks. In case of death, funeral expenses corresponding to 30 days' wages are paid to the family of the deceased.

An employer of from 300 to 500 insurants may form or be required to form a health insurance association to undertake the insurance business of its members under the control of the government. There were 350 such

GROWTH OF SOCIAL INSURANCE, 1927-1929 ^a
(In thousands)

Fiscal Year	Issued by the Government			Issued by Health Insurance Associations		
	Number of Insurants	Annual Premiums Paid In	Claims Paid During Year	Number of Insurants	Annual Premiums Paid In	Claims Paid During Year
1926-27 ^b	1,141	3,496	3,309	801	4,359	3,768
1927-28 . .	1,115	17,411	16,726	774	18,050	17,507
1928-29 . .	1,161	18,735	16,655	773	18,081	16,493

^a Japanese Government, Bureau of Statistics, *Statistical Annual*.

^b For three months only.

associations at the end of the financial year 1929-30. For those who are not members of any such associations the government itself undertakes the insurance business.

The government treasury contributes about one-tenth of the total expense of the insurance (2 yen annually per person is the limit). The rest of the expenses are as a rule shared equally by the employer and the employees, although in businesses of exceptional risk the employer may be required to bear two-thirds of the cost. In the case of health insurance

associations, the premium is now on the average rate of 4.5 sen per yen of the daily wage of the insured. In the government managed insurance, it is 8 sen per yen in coal mining, and 4 sen per yen in other industries. The growth of both types of social insurance is indicated in the table on page 199.

While there is no system of compulsory unemployment insurance in Japan, the practice on the part of employers of granting dismissal and retirement allowances is widespread. As we shall see in Chapter XIX this practice has its roots in the old patriarchial relationship of master and servant which prevailed in Japan until after the beginning of the Meiji era.

CHAPTER XI

THE SYSTEM OF PUBLIC FINANCE

The rapid expansion of the economic life of Japan under the fostering influence of the government and the efforts put forth to become a great Imperial power have naturally necessitated the raising of large and steadily increasing amounts of revenues by the treasury and the creation of an effective system of public finance. Moreover, as we shall see, these developments have involved an extensive resort to public credit, which in recent years, as a result of accumulating debts, has complicated the problem of maintaining financial stability. In this chapter we shall present the essential facts with reference to the development of public finance—national, colonial, and local—showing the results of fiscal operations over a period of years, analyzing the revenue accounts, and classifying the expenditures for different purposes. In the following chapter we shall show the effects of government fiscal operations over a period of years upon the growth of the public debt.

I. NATIONAL GOVERNMENT FINANCE

Under the Tokugawa régime, the public revenue, which was typically inadequate and unstable in amount, was derived almost entirely from a tax on land, payable in rice or money.¹ There existed no government budget or system of financial accounting and control. In the early days of the Meiji era, the condition of public finance continued to be unsatisfactory, and it was

¹ The system of expressing income in terms of so many bushels of rice was not abandoned until March, 1876.

not until after the adoption of the Imperial constitution in 1889 that a system of state financial administration was established.

The budgets of most countries are complicated affairs—commonly involving, in addition to ordinary receipts and expenditures, certain special, annex, or extraordinary items which are handled in separate accounts. Moreover, the proceeds of loans are frequently included as a part of revenues, and on occasion government bonds are issued for the purpose of meeting obligations which otherwise would require cash outlays—as, for example, in defraying the cost of war devastation in France and of earthquake damages in Japan. Accordingly, the figures which are periodically published by governments purporting to show the precise condition of national finances are almost universally misleading; even the treasury officials themselves rarely know what a comprehensive, all-embracing set of accounts would show. The Japanese accounts are typical in this respect, though they are distinctly better than those of some leading countries.

As a preliminary to presenting a statement of Japan's fiscal condition it is necessary to describe the system of financial administration.

1. *The fiscal system.* The Imperial constitution provides that both revenues and expenditures of the state must be set forth in the form of an annual budget for approval by the Imperial Diet, and that the final figures shall be verified and confirmed by a board of audit, the report of which shall also be submitted to the Diet. The financial year is from April 1 to March 31.

A sinking fund for the public debt was established in 1906. According to present regulations, a sum not less than 0.0116 of the amount of the total debt (minimum amount in any case 30,000,000 yen) outstanding at the

beginning of the preceding financial year must be appropriated to the sinking fund of both general and special accounts.² Moreover, since 1927 not less than one quarter of the treasury surplus of the second financial year preceding shall be used for debt refunding.

Besides the *general* account there are more than 30 *special* accounts. The special accounts are of several types: (1) those pertaining to the finances of the colonies; (2) those pertaining to certain government enterprises; and (3) certain miscellaneous accounts. The finances of the various colonial governments are handled separately, in part because of their quasi-independence, and in part with a view to indicating their precise status as separate operating units. In most cases, as we shall see, they receive contributions from the central government.

Among the enterprises conducted by the government, we find that several different methods of accounting are employed. First, there are a number of enterprises, the accounts of which are entirely independent of the *general* account (or budget) of the government. In the case of the government railways, as pointed out in Chapter V, any net profits earned may be used for extension and improvements, and, in case of a deficiency of revenue, loans are floated by the government and charged against the railway account rather than against the general account. Since 1928 the accounts of the government iron works have been treated like those of the government railways but prior to that time

² Certain loans, however, contain special provisions with reference to the sinking fund; the 6.5 per cent dollar bonds floated in New York in 1924 required a sinking fund equal to three to four million dollars annually; and the 5.5 per cent loan of 1930 required amortization in 30 years beginning with 1935 through semi-annual instalments. The obligations constitute a prior charge against annual appropriations.

the profits, or deficits as the case might be, were transferred to the general account. (As a rule, revenues exceeded expenditures.)³

Second, receipts and disbursements of the postal, telegraph, and telephone services are handled as an integral part of the general accounts. The revenues are recorded separately as gross figures, while expenditures for operation are included within the general outlays of the Department of Communications. Hence, it is impossible to show the net results of the operation of these services. (See, however, further discussion on page 216.)

Third, there are certain government enterprises, the accounts of which are handled separately, but the net revenues or deficits from which are eventually transferred to the general account. The most important of these are the tobacco, salt, and camphor monopolies, which were established shortly after the war with Russia for the purpose of increasing government revenues. The salt monopoly, however, has since been administered rather with a view to providing this necessity at low and stable prices. The camphor monopoly handles the purchase and sale of camphor and camphor oil and supplies the bulk of the world demand. The revenues from these monopolies have shown a steady and substantial growth and now constitute a very important source of government revenues.⁴ See Table 51 on page 576.

Fourth, there are a number of other government enterprises giving rise to special accounts which involve a twofold relationship to the general account. The

³ In 1929 the revenues were 170,525,674 yen, and the expenditures 155,644,677 yen.

⁴ For a full account of the Japanese camphor monopoly, the reader is referred to Wallace, Benjamin B., and Edminster, Lynn R., *International Control of Raw Materials*, 1930, pp. 57-75.

special accounts for the military and naval arsenals, naval powder works, naval fuel plants, and army woolen mills receive appropriations for fixed capital requirements from the general account; and any net profits derived are transferred to the general account. The accounts of the Government Printing Office are handled in the same manner. The special account for the Mint receives appropriations from the general account for fixed capital, the net profits of which are retained and set aside as a reserve fund; though if any fixed capital is subsequently liquidated the proceeds are transferred to the general account. The accounts for the Post-Office Life Insurance and Annuity System and for the Health Insurance receive appropriations, if necessary, from the general account; but any net profits earned are entered in a reserve fund. Mention should also be made of the special account resulting from the "rice control" (see discussion, page 317). This account is theoretically independent of the general account, but if losses are incurred they will, in practice, become a charge against the general account.

War-time financing has also typically been handled in special or extraordinary accounts. Thus neither the loans raised nor the expenditures appear in the ordinary fiscal operations. The only exception is found in connection with the outlays incident to the Boxer War of 1900.

In addition to the foregoing classes of special accounts there are miscellaneous accounts which have been created for one purpose or another. The National Debt Consolidation Fund takes charge of the financial administration of the government debt, receiving annually from the general account⁵ a fixed sum with

⁵ The debts ascribable to the railway and the iron foundry are, however, financed from the special accounts.

which to meet sinking fund and interest obligations. The State Property Fund handles disbursements and receipts incident to state property. The Treasury Deposits Bureau manages the receipts derived from the deposits of postal savings and other savings institutions, bails, etc., and it also handles the funds of most of the special accounts. The Government Loan Fund receives and temporarily deposits proceeds of government loans, transferring them to the general account or to the proper special accounts as they are required. The Education Fund consists of a portion of the indemnities received from China after the Chino-Japanese War. Other special accounts include those for universities, colleges, schools, and libraries, each of which receives an annual appropriation from the general account.

2. *Results of fiscal operations.* The condensed statements of revenues and expenditures, as published annually by the Finance Department (see illustration, page 207), do not accurately indicate the status of government finances. In the first place, they are for the general account only and thus do not cover the entire range of fiscal operations; second, the revenue figures include receipts from loans as well as from taxes and other non-borrowed sources; third, the accumulated surplus at the end of each year is treated as revenue in each new year; and fourth, current obligations which are sometimes met by means of the delivery of bonds, in lieu of cash, are not included.

The inclusion of loans as a part of current revenues obviously obscures the true situation. The practice of treating accumulated surplus as a revenue for the succeeding year, which may be technically justified on the ground that this accumulated surplus is "received into" the new year's accounts, greatly increases the apparent revenue (because of the policy that was

followed, prior to 1927, of accumulating a large surplus rather than reducing the public debt).

The meeting of current obligations by the delivery of bonds is tantamount to the making of loans with which to meet current expenses. When a loan is floated the government receives cash, which it pays over to its debtors; when bonds are employed in lieu of cash, the public debt is equally increased. The only difference is that, in the first case, the government assumes the task of raising cash through the sale of its bonds,

OFFICIAL FORM OF CONDENSED STATEMENT OF GENERAL
ACCOUNT, 1914-1920
(In thousands of yen)

Year Ending March 31	Revenue	Expenditure	Surplus (+) or Deficiency (—)
1914.....	721,975	573,634	+ 148,342
1915.....	734,648	648,420	+ 86,228
1916.....	708,616	583,270	+ 125,347
1917.....	813,308	590,795	+ 222,513
1918.....	1,084,958	735,024	+ 349,934
1919.....	1,479,116	1,017,036	+ 462,081
1920.....	1,808,633	1,172,328	+ 636,305

while in the second case the recipient of the government bonds has the task of selling them for cash. This practice of paying obligations with bonds obscures the true budget situation since the bond issues are not included along with other loans nor are the outlays included under expenditures.

The form in which the general accounts are published is shown by the table on this page, the years 1914 through 1920 being used for purposes of illustration.

To show the condition of the general account accurately it is necessary to separate borrowed from non-borrowed revenues, and to eliminate the surplus carried

EXPENDITURES AND REVENUES OF THE GENERAL ACCOUNT,
1892-1930 ^a

(In thousands of yen)

Year Ending March 31	Expen- ditures	Non- borrowed Revenues	Surplus (+) or Deficit (—)	Loans Floated for General Account	Accum- ulated Surplus ^b
1892.....	83,556	78,888	— 4,668	—	19,676
1893.....	76,735	81,786	+ 5,051	—	24,727
1894.....	84,582	89,042	+ 4,460	—	29,188
1895.....	78,129	68,983	— 9,146	—	20,041
1896.....	85,317	98,391	+ 13,074	—	33,116
1897.....	168,857	150,927	— 17,930	2,977	18,163
1898.....	223,679	171,837	— 51,842	36,390	2,711
1899.....	219,758	181,990	— 37,768	35,353	297
1900.....	254,166	218,792	— 35,374	35,166	89
1901.....	292,750	257,626	— 35,124	38,140	3,105
1902.....	266,857	239,532	— 27,325	31,722	7,502
1903.....	289,227	277,098	— 12,129	12,741	8,115
1904.....	249,596	245,225	— 4,371	6,881	10,625
1905.....	277,056	310,255	+ 33,199	6,587	50,411
1906.....	420,741	410,920	— 9,821	73,925	57,161
1907.....	464,276	457,779	— 6,497	15,508	65,975
1908.....	602,401	791,108	+ 188,707	—	254,683
1909.....	636,361	539,431	— 96,930	824	158,576
1910.....	532,894	516,390	— 16,504	2,580	144,653
1911.....	569,154	525,382	— 43,772	2,839	101,248
1912.....	585,375	544,744	— 40,631	11,201	71,818
1913.....	593,596	597,248	+ 3,652	18,327	93,796
1914.....	573,634	615,285	+ 41,651	12,895	148,342
1915.....	648,420	575,617	— 72,803	10,689	86,228
1916.....	583,270	620,683	+ 37,413	1,705	125,346
1917.....	590,795	686,386	+ 95,591	1,577	222,513
1918.....	735,024	845,461	+ 110,437	16,984	349,902
1919.....	1,017,036	1,100,859	+ 83,823	28,355	462,080
1920.....	1,172,328	1,327,463	+ 155,135	19,090	436,305
1921.....	1,359,978	1,310,716	— 49,262	53,632	640,674
1922.....	1,489,856	1,372,004	— 117,852	53,033	575,856
1923.....	1,429,690	1,484,564	+ 54,874	26,926	657,656
1924.....	1,521,050	1,352,601	— 168,449	35,041	524,248
1925.....	1,625,024	1,475,174	— 149,850	127,970	502,349
1926.....	1,524,989	1,522,431	— 2,558	46,590	546,381
1927.....	1,578,826	1,475,947	— 102,879	34,033	477,535
1928.....	1,765,723	1,524,126	— 241,597	61,094	297,032
1929.....	1,814,855	1,551,574	— 263,281	157,085	190,836
1930.....	1,736,317	1,535,746	— 200,571	99,862	90,128

^a Compiled by the Bank of Japan from *Final Accounts of Government Revenues and Expenditures* as presented to the Imperial Diet by the Japanese Government.

forward from the revenue items. In the table on page 208 which, with the aid of the Bank of Japan, has been especially compiled from available materials, we show for the general account the annual expenditures, non-borrowed revenues, the resulting surplus or deficit, the loans floated, and also the accumulated surplus which the treasury holds at the end of each year, for the fiscal years 1892 through 1930.

While these figures are for the general account only, it is apparent from the foregoing description of the relations between the general and the special accounts that they include all funds which are transferred from special accounts to the general account and all disbursements made from the general account to the special accounts. Inasmuch, however, as only the net revenues or deficits are thus transferred⁶ the general account does not show the aggregate expenditures and revenues of the general and special accounts combined.

These figures of the general account do not, moreover, completely reveal the net results of all government operations. They still do not include the loans floated by the special accounts, or the delivery of bonds in lieu of cash in meeting certain obligations. The most important loan flotations outside of the general accounts are those of the railways and iron foundry, of the colonial governments, and of the special war accounts. Since the railway and the iron foundry loans are directly productive in character (see discussion, page 211), they do not impose a fiscal burden.

⁶ Some minor exceptions were noted above.

^b Authorized transfers have occasionally been made from the accumulated surplus accounts to special accounts without being charged to expenditures. As a result, the annual change in accumulated surplus does not always exactly equal the sum of the corresponding amounts given in the "surplus or deficit" and "loans floated" columns.

The loans of the colonial governments, which are obligations of Japan proper, are shown on page 232.

The practice of carrying the extraordinary loan revenues and expenditures of wars in special accounts naturally renders the figures of the general account quite misleading as to general trends. Such loans floated for the conduct of the Chino-Japanese War amounted to 116,804,926 yen; for the Russo-Japanese War to 1,418,731,228 yen; and for the World War to 555,798,705 yen.⁷

The delivery of bonds in lieu of cash derived from the sale of bonds is a device which has been employed for such purposes as the following: Abolition of the feudal system;⁸ grants for services rendered; purchase of railways (for which real values were received in the form of profitable enterprises); retirement allowances; general relief work; earthquake reconstruction and financial losses; the liquidation of "Nishihara loans";⁹ compensation to shipyards in connection with limitation of naval armaments; compensation to the Bank of Japan for losses resulting from advances for Taiwan relief following the panic of 1927; etc. The detailed figures for these bond issues from 1922 to 1930 are given in Table 54, page 580. The total for this period aggregates 856,550,450 yen. The largest items are for earthquake reconstruction and losses, Taiwan relief, and "Nishihara loan" liquidation. Detailed figures for the period before 1922 are not available, but the amounts are included within the total public debt figures.

⁷ For the detailed figures of these accounts see Table 50, p. 576.

⁸ When the feudal system was abolished, the government agreed to compensate individuals for property losses sustained, and compensation made through the issue of bonds still continues.

⁹ See Chap. XIV, p. 283.

While it is thus impossible to combine the general and special accounts in such a way as to reveal the net results of all fiscal operations, this end may nevertheless be attained by another means. All expenditures in excess of the receipts from taxes and other current income necessarily involve borrowing operations; hence the accumulated annual deficits are registered in the growth of the public debt outstanding. Allowance must, however, be made for the fact that the Japanese treasury, as indicated in the table on page 208, has ordinarily maintained a surplus of considerable size. The difference between the change in the public debt and the change in the surplus thus represents the annual net results of all fiscal operations.¹⁰ Since the public debt figures include the debts of the colonies, we are combining the accumulated surplus of the government of Japan proper with that of the colonial governments. Inasmuch as the railway and iron foundry finances are handled in separate, self-sustaining accounts and impose no fiscal burden upon the government, that portion of the public debt attributable to these productive operations is excluded from the table on page 212.

It will be seen from the last column of the table and the chart that the condition of government finances during the early nineties was eminently satisfactory, the outstanding debt actually showing some decline. The Chino-Japanese War resulted in moderate deficits, which continued until 1900, in which year they were increased by the expenses incident to the Boxer War,

¹⁰ This statement is not exactly precise because an increase or decrease of the public debt is sometimes attributable to conversion operations; for example, if 100,000,000 yen of 6 per cent bonds were retired and replaced by 5 per cent bonds which had to be sold at 90, the par value of the bonds outstanding would have to be increased by something like 10,000,000 yen. The capitalization of unpaid interest would also increase the public debt.

NET RESULTS OF FISCAL OPERATIONS, JAPAN PROPER AND THE COLONIES, 1892-1930 *

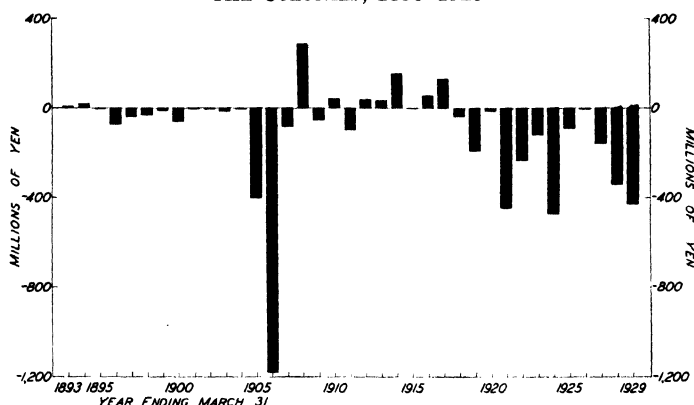
(In thousands of yen)

Year Ending March 31	Government Debt (Exclusive of railway and iron foundry) ^b	Change in Government Debt ^c	Accumulated Surplus	Change in Accumulated Surplus ^d	Net Change in Government's Financial Position ^e
1892.....	225,386	—	19,675	...	...
1893.....	224,926	— 460	24,727	5,052	5,512
1894.....	211,049	— 13,877	29,187	4,460	18,337
1895.....	207,057	— 3,992	20,041	— 9,146	— 5,154
1896.....	293,104	86,011	33,115	13,074	— 72,937
1897.....	316,898	23,794	18,162	— 14,953	— 38,747
1898.....	332,685	15,787	3,506	— 14,656	— 30,443
1899.....	341,079	8,394	1,361	— 2,145	— 10,539
1900.....	401,873	60,794	1,191	— 170	— 60,964
1901.....	409,050	7,177	3,899	2,708	— 4,469
1902.....	418,018	8,968	7,904	4,005	— 4,963
1903.....	435,966	17,948	9,205	1,301	— 16,647
1904.....	445,168	9,202	11,552	2,347	— 6,855
1905.....	888,698	443,530	53,854	42,302	— 401,228
1906.....	2,080,390	1,191,692	62,131	8,277	— 1,183,415
1907.....	2,170,781	90,391	71,333	9,202	— 81,189
1908.....	2,074,025	— 96,756	263,545	192,212	— 288,968
1909.....	2,029,945	— 44,080	166,321	— 97,224	— 53,144
1910.....	1,977,467	— 52,578	156,163	— 10,158	— 42,420
1911.....	2,037,794	60,327	120,555	— 35,608	— 95,935
1912.....	1,971,152	— 66,642	92,421	— 28,134	— 38,508
1913.....	1,960,806	— 10,346	118,111	25,690	— 36,036
1914.....	1,855,463	— 105,343	169,227	51,116	— 156,459
1915.....	1,787,499	— 67,964	100,207	— 69,020	— 1,056
1916.....	1,769,667	— 17,832	140,363	40,156	— 57,988
1917.....	1,747,622	— 22,045	249,133	108,770	— 130,815
1918.....	1,933,799	186,177	397,667	148,534	— 37,643
1919.....	2,258,027	324,228	528,983	131,316	— 192,912
1920.....	2,442,584	184,557	701,872	172,889	— 11,668
1921.....	2,883,217	440,633	695,366	— 6,506	— 447,139
1922.....	3,047,869	164,652	626,810	— 68,556	— 233,208
1923.....	3,235,492	187,623	697,249	70,439	— 117,184
1924.....	3,570,393	334,901	561,260	— 135,989	— 470,890
1925.....	3,642,645	72,252	543,122	— 18,138	— 90,390
*1926.....	3,703,578	60,933	598,586	55,464	— 5,469
*1927.....	3,815,557	111,979	551,669	— 46,917	— 158,896
*1928.....	3,978,674	163,117	372,608	— 179,061	— 342,178
1929.....	4,298,609	319,935	265,385	— 107,223	— 427,158
1930.....	4,378,503	79,894	145,976	— 119,409	— 199,303

* Compiled by the Bank of Japan from *Final Accounts of Government Revenues and Expenditures* as presented to the Imperial Diet by the Japanese Government.

which amounted to 28,000,000 yen. During the next four years the situation was fairly satisfactory, but then came the huge deficits of the Russo-Japanese War period. Between 1907 and 1914 the situation was very good, with non-borrowed revenues usually exceeding the expenditures. During the war years the situation showed still further improvement. Beginning with the fiscal year 1917-18, however, substantial deficits

ANNUAL CHANGE IN FINANCIAL POSITION, JAPAN PROPER AND THE COLONIES, 1893-1929



again appeared; and they have continued to the present time. The possibility of improvement in the future will be given consideration in Chapter XXI.

3. *Analysis of revenues.* The Japanese government derives its non-borrowed revenues from three principal sources—direct taxes, indirect taxes, and government enterprises and properties. The largest source of income at the present time is from the indirect levies.

^b Prior to 1908 the figures are for debt outstanding at the end of calendar years, fiscal year data not being available.

^c Minus sign indicates decrease in debt.

^d Minus sign indicates decrease in surplus.

^e Minus sign indicates deterioration in financial position.

A striking feature of the Japanese revenue system is the exceptionally large return which is yielded by government enterprises and properties.

TAX REVENUES FOR YEAR ENDING MARCH 31, 1929 *

Source	In Thou- sands of Yen	As a Percentage of Group Total
DIRECT TAXES	460,398	100.0
Income tax.....	206,741	44.9
Land tax.....	67,821	14.7
Registration fees.....	60,321	13.1
Business profit tax.....	57,870	12.6
Inheritance tax.....	29,224	6.4
Tax on the interest of capital.....	16,204	3.5
Stamp duties.....	5,675 ^b	1.2
Tax on the issue of bank notes.....	5,649	1.2
Mining tax.....	5,591	1.2
Tax on hunting license.....	1,878	0.4
Bourse business tax.....	1,630	0.4
Tonnage duties.....	1,599	0.3
Others.....	195	0.1
INDIRECT TAXES	523,377	100.0
Excise on liquors.....	235,749	45.1
Soft drinks excise.....	4,224	0.8
Customs duties.....	150,944	28.8
Sugar excise.....	83,216	15.9
Excise on textile fabrics (except cot- ton fabrics).....	40,266	7.7
Tax on bourse transactions.....	8,978	1.7
OTHER REVENUES IN STAMPS (unclassified)	18,705	100.0

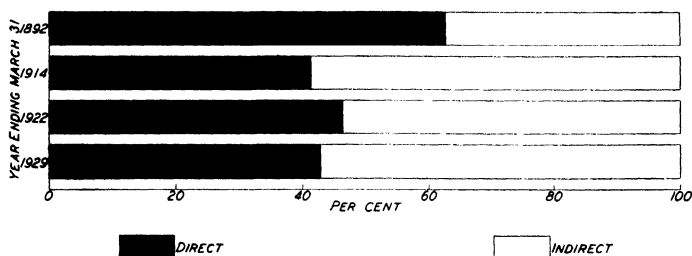
* Compiled by the Bank of Japan from *Final Accounts of Government Revenues and Expenditures* as presented to the Imperial Diet by the Japanese Government.

^b Estimated.

The taxation system of Japan, like that of other countries, has been developed, not in pursuance of a theoretically sound and coherent program, but unmethodically, by the addition of new taxes to old ones, and by an occasional general revision of the system. It

was not until 1910 that the government undertook a general revision of the taxation system that had developed by the gradual process of accretion. A sec-

RELATIVE IMPORTANCE OF DIRECT AND INDIRECT TAXES,
1892-1929 *



* See Table 52, p. 577, for data.

ond general revision took place in 1926 and a third in 1927, both of which were extended to colonial and local systems, as well as to the national government.

Net receipts:

Yen

Camphor, tobacco, and salt monopolies	177,201,523
Dividends	9,603,639
Printing office	1,956,275
Naval arsenal, fuel plant, etc.....	1,871,862
Sale of State properties.....	763,904
Government woolen mill.....	3,127
	<hr/> 191,400,330

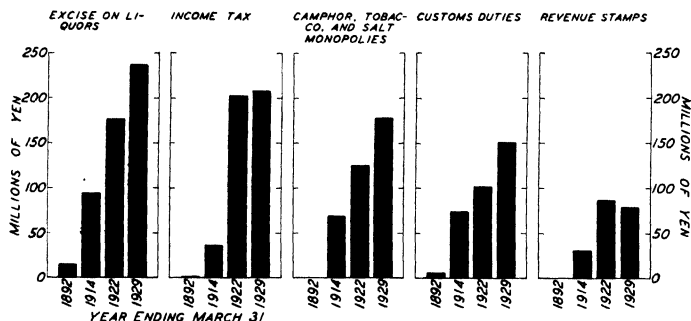
Gross receipts:

Postal, telegraph, and telephone services	233,412,966
State forests	42,874,818
Prisons	6,505,893
	<hr/> 282,793,677

The revisions of 1926 and 1927 were intended to provide for a more equitable distribution of the tax burden in the interests of social welfare. The most important changes were the abolition of the transit

duty and of excises on patent medicines, soy beans, and cotton fabrics; the raising of the exemption limit on income and inheritance taxes; the establishment of an exemption limit on land owned by peasant proprietors; and the replacement of the business tax by a business profits tax. The yield from the various forms of taxes in 1928-29 is shown by the table on page 214, and the relative importance of direct and indirect taxes over a period of years is shown by the diagram on page 215.

RELATIVE GROWTH OF PRINCIPAL FORMS OF REVENUE *



* See Table 51, p. 576, for data.

The government enterprises and properties which produce the largest revenues are the camphor, salt, and tobacco monopolies and the postal, telegraph, and telephone services. As we have already seen, the receipts from the postal, telegraph, and telephone operations, state forests, and prisons, as recorded in the revenue statements, are *gross* figures, the expenditures being included under the general outlays of the departments which administer them. It is, therefore, impossible to show the net profits derived from these sources. As to the postal, telegraph, and telephone

services, however, it has been stated in the Diet that the expenditures incurred in connection with their operation equal approximately 80 per cent of the gross receipts. In addition to the receipts from government enterprises and properties there is usually some small

CLASSIFICATION OF EXPENDITURES, 1929 ^a
(In thousands of yen for year ending March 31)

Expenditure	Amount	Percentage of Total
Military expenses.....	308,094	17.0
Other expenses of Departments of		
Army and Navy.....	209,143	11.5
National debt services.....	285,700	15.7
Earthquake relief and reconstruction..	185,757	10.2
Educational expenses.....	146,380	8.1
Pensions and annuities.....	142,047	7.8
Payments to "special accounts".....	27,044 ^b	1.5
Tax collection expenses.....	22,989	1.3
Allowance for Imperial Household....	4,500	0.3
General administrative and sundry....	483,201	26.6
Total.....	1,814,855	100.0

^a Compiled by the Bank of Japan from *Final Accounts of Government Revenues and Expenditures* as presented to the Imperial Diet by the Japanese Government.

^b Exclusive of payments for national debt services and educational expenses, which are given separately.

income from other special accounts, the amount received in 1928-29 being 26,813,000 yen.

The classified receipts from government enterprises and properties for the year ending March 31, 1929, compiled by the Bank of Japan, are shown in the table on page 215.

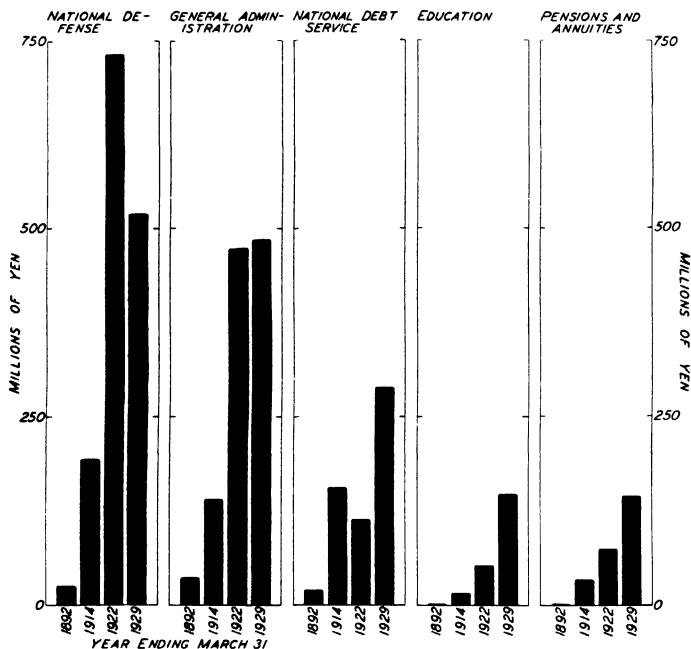
The changes in the relative importance of the major sources of revenue over a period of years are indicated in the diagram on page 216.

It will be seen that the excise on liquors yields substantially more than does any other single source of revenue. The income tax has become the next most important source of revenue, followed closely by the

camphor, tobacco, and salt monopolies, and customs duties.

4. *Analysis of expenditures.* The expenditures of the Japanese government for the year 1928-29 are shown in the table on page 217.

RELATIVE GROWTH OF PRINCIPAL FORMS OF EXPENDITURES *



* See Table 53, p. 578, for data.

It will be seen that three or four items comprise the bulk of the total outlays. Tax collection expenditures are relatively small and, as a matter of fact, have shown no expansion during the last ten years. The payments to special accounts have also shown little change during the past decade, and they are much smaller than they were during the war years. The

allowance for the Imperial Household has stood at 4,500,000 yen since pre-war days.

The relative importance of the major items of expenditure over a period of years is shown by the diagram on page 218. The striking features of this diagram are the increases since 1913-14 in the proportion which goes to the maintenance of national debt services, pensions and annuities, and education. The military expenses increased remarkably until 1922, but since then there has been a substantial decline. The budget experience of the last few years and the immediate situation are discussed in Chapter XXI.

II. LOCAL GOVERNMENTS

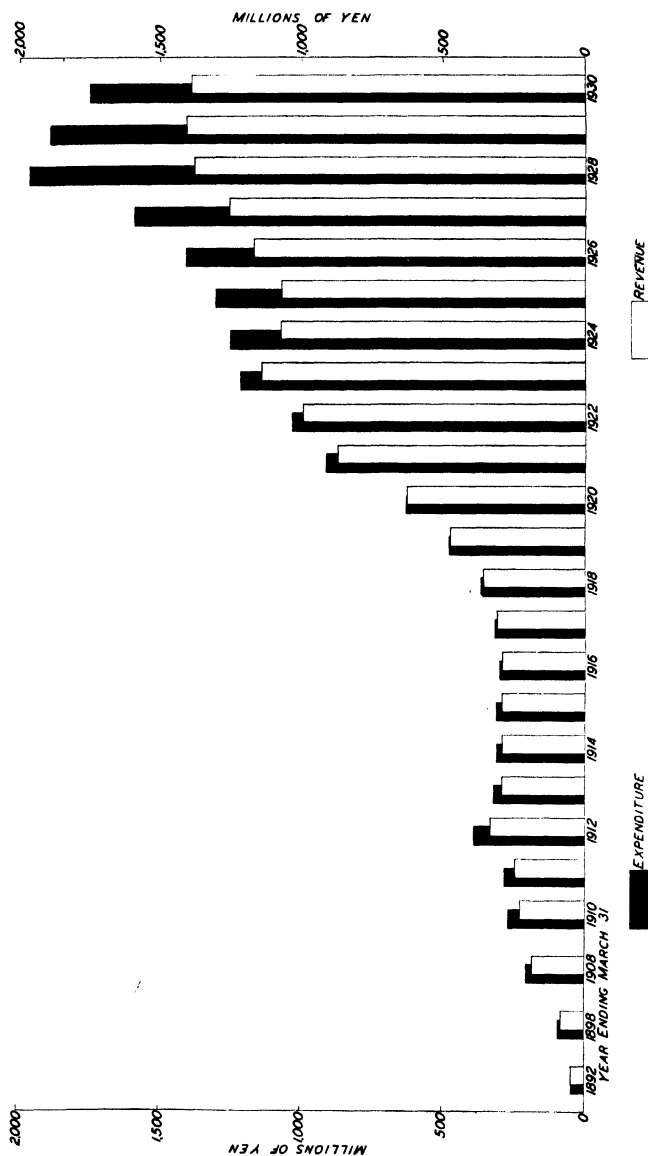
The local government units in Japan proper include 47 prefectures, 109 cities, 1,702 towns, and 10,043 villages. In 1890 the local autonomies were placed under the general supervision of the Department of the Interior,¹¹ and the financial year was made the same as that of the national government, namely, from April 1 to March 31. Annual budgets and final accounts must be approved by the prefectural or the municipal assemblies and must have the sanction of a superior administrative body. The total expenditures of these local autonomous bodies are comparable in magnitude with those of the national government.

1. *Revenues and expenditures compared.* The results of the budget operations of all local governments since 1892 are shown in the diagram on page 220.

It will be seen that the expenditures have continuously exceeded the non-borrowed revenues, including

¹¹ All data in this section are taken from *Statistical Report of the Department of Home Affairs* and from the *Summary of Local Finance* compiled by the Japanese Department of Home Affairs.

REVENUE AND EXPENDITURE OF ALL LOCAL GOVERNMENTS,
1892-1930 *



* See Table 57, p. 586, for data.

the contributions from the central government, and that large loans have had to be floated every year. The amount of the loans (see Table 57, page 586) does not, however, exactly equal the amount of the deficit. When the loans exceed the deficit, the balance serves to increase the accumulated surplus of the local treasury, and when the loans do not equal the deficit the surplus is correspondingly reduced. As the table on page 586 indicates, a substantial surplus has ordinarily been maintained. The size of the deficit and the amount of the loans raised in recent years have been sources of much concern. It will be noted, however, that the peak of loans was reached in 1927.

It will be of interest to reveal separately the results of fiscal operations in the principal cities of the country. In the table on page 222 we give the surplus or deficit and the loans raised annually for the period 1914 to 1930 for the six largest cities in Japan.

As in the case of all local governments, the deficits have increased very markedly since 1920. Save in Tokyo and Kyoto, the total deficit and the loans raised have, however, been materially smaller since 1928.

2. *Revenues.* Local systems of taxation have been reorganized and adjusted from time to time in the light of the revisions that have been made in the national taxes. In consequence, the country's taxation system as a whole is reasonably well co-ordinated. Certain taxes are reserved exclusively for the municipalities, others for prefectures, while in many cases the prefectural and municipal units receive a rate or share of the national taxes. This general taxation scheme and the amount of revenue derived by the prefectures and municipalities respectively from the various sources in the latest fiscal year for which the

TREASURY POSITION AND BORROWINGS OF PRINCIPAL CITIES, 1914-1930
(In thousands of yen)

Year Ending March 31	Tokyo		Yokohama		Osaka		Kobe		Kyoto		Nagoya	
	Surplus (+) or Deficit (-)	Loans Raised	Surplus (+) or Deficit (-)	Loans Raised	Surplus (+) or Deficit (-)	Loans Raised	Surplus (+) or Deficit (-)	Loans Raised	Surplus (+) or Deficit (-)	Loans Raised	Surplus (+) or Deficit (-)	Loans Raised
1914.....	- 9,470	2,700	- 3,012	—	- 5,214	391	- 840	1,629	- 1,351	1,621	- 1,048	—
1915.....	- 5,065	5,600	490	—	3,179	1,469	481	1,615	924	—	860	610
1916.....	- 39	5,325	194	—	1,882	2,383	- 1,302	1,608	430	3	- 172	—
1917.....	- 7,424	9,350	87	122	829	652	- 2,039	2,037	+	2	876	610
1918.....	+ 2,136	2,394	+ 326	—	224	6,411	- 23,101	24,466	+	17,112	240	—
1919.....	+ 931	2,100	+ 375	—	349	1,301	- 2,803	949	+	529	+	—
1920.....	- 3,485	8,480	+ 113	2,059	- 6,576	13,978	- 1,035	5,026	+	1,976	+	593
1921 ^a	- 15,342	17,303	- 5,104	2,948	- 19,190	32,013	- 10,904	12,149	+	2,756	- 1,614	2,970
1922.....	- 35,241	51,052	- 2,327	1,270	- 23,331	16,244	- 9,192	6,425	+	2,453	- 15,552	17,863
1923.....	- 49,064	46,537	+ 2,074	1,151	- 27,445	36,229	- 5,540	6,873	+	2,455	- 5,742	6,082
1924.....	—	—	—	—	—	—	—	—	—	—	—	—
1925.....	- 40,637	75,301	- 3,648	11,959	- 26,138	29,305	- 4,810	1,750	- 3,882	632	- 3,557	1,346
1926.....	- 45,130	27,523	- 12,365	24,386	- 37,031	40,982	- 29,127	29,199	- 4,725	3,715	- 7,636	8,143
1927.....	- 88,433	110,399	- 39,199	46,917	- 50,153	50,891	- 19,976	19,976	- 1,862	2,362	- 21,039	21,497
1928.....	- 139,837	167,524	- 36,799	21,317	- 170,778	196,078	- 16,316	19,723	- 2,993	4,098	- 49,668	46,548
1929 ^b	- 129,211	127,149	- 16,406	8,970	- 51,986	28,239	- 11,582	8,926	- 8,051	3,994	- 7,072	6,520
1930 ^b	- 123,722	122,126	- 6,284	4,135	- 48,512	27,854	- 12,367	10,495	- 7,556	5,985	- 7,511	6,799

^a No data for 1920-21 are available because of loss of materials in the earthquake and fire of 1923.

^b Budget figures.

returns are available are shown by the following table.

In addition to the taxes and rates, local governments also receive large revenues from a number of other

LOCAL GOVERNMENT TAX REVENUES, 1928-29

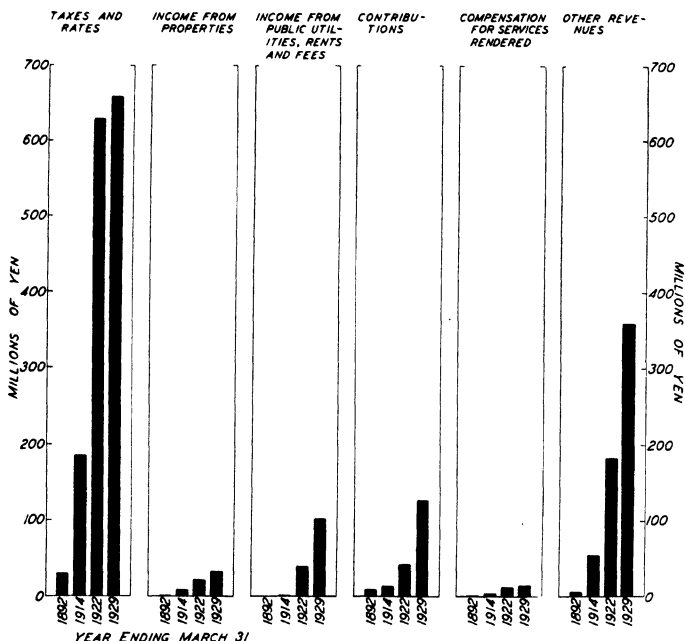
		In thousands of yen
Prefectural taxes	Independent taxes	Special land tax..... 9,473
		House tax..... 43,214
		Business tax..... 10,575
		Miscellaneous taxes .. 58,652
	Rates on national taxes derived from	Income tax..... 34,701
		Land tax..... 73,848
		Business profit tax... 21,585
		Mining tax..... 326
		Bourse business tax.. 148
	Impost on cities, towns, and villages.. 10,385	
	Total..... 262,907	
Municipal (city, town, and village) taxes	Independent taxes	Household tax..... 164,304
		Field tax..... 8,654
		Special taxes (authorized by Home and Finance Ministries).... 16,628
	Rates on national taxes derived from	Income tax..... 11,892
		Land tax..... 41,471
		Business profit tax... 29,877
		Mining tax..... 347
		Bourse business tax.. 163
	Rates on prefectural taxes derived from	Special land tax..... 4,887
		House tax..... 51,003
		Business tax..... 9,882
		Miscellaneous taxes*.. 54,701
	Total..... 393,809	

* Miscellaneous taxes include among others taxes on carriages and vehicles, electric light poles, acquisition of real estate, and various licenses.

sources. These are classified as follows: receipts from properties; income from public utilities, rents, and fees; compensation for services rendered for superior administrative bodies; contributions from the central

government, or from prefectures; and other revenues, which include miscellaneous contributions, income from employment of funds, fines, etc. Taxes and rates yield a little more than 50 per cent of the total revenues, while the last-mentioned category contributes

RELATIVE IMPORTANCE OF PRINCIPAL FORMS OF LOCAL REVENUE,
1892-1929 *



* See Table 56, p. 584, for detailed annual figures.

approximately 30 per cent. The amounts derived from various sources over a period of years are shown by the diagram above.

3. *Expenditures.* In former years the expenditures of the prefectural governments were larger than those of the cities, towns, and villages combined. In recent

years, however, the growth of expenditures of cities has been remarkable and they now aggregate 43 per cent of the total of all local government outlays. The growth of local expenditures as a whole has, moreover, increased more rapidly than has the growth of expenditures of the national government. In 1914 the national expenditures included in the general account amounted to 573,633,000 yen, as compared with 310,753,638 yen for local expenditures; the corresponding figures for 1929 were 1,814,855,000 yen for national and 1,893,808,000 for local expenditures.

The growth in expenditures since 1891, classified by major purposes, is shown in the diagram on pages 226-27. In the earlier years the largest expenditures were made for public works, including roads, bridges, river embankments, and other highway improvements, but shortly before the World War education took the leading place. The increase of expenditures for this worthy purpose has been very rapid and this item now represents 27.9 per cent of the total. Expenditures for sanitation, for town planning, for social purposes, and for the encouragement of industries have also shown rapid advancement in recent years. It will be seen that a considerable percentage of these expenditures has been directly and indirectly productive in character.

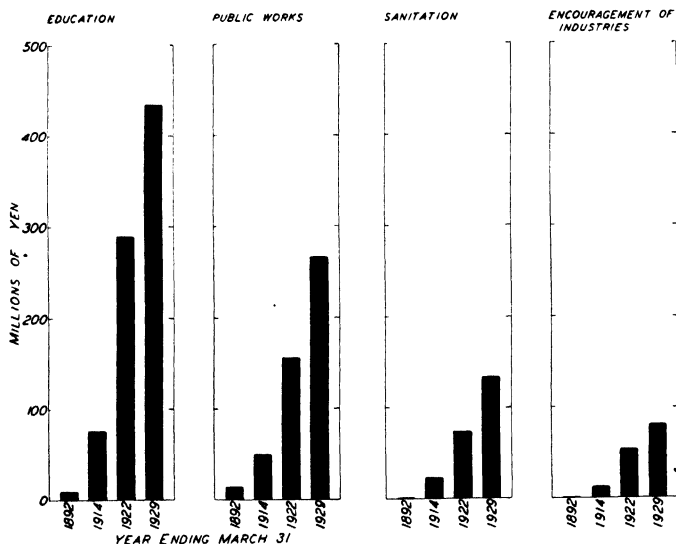
III. THE COLONIAL GOVERNMENTS

As has already been pointed out, the finances of the Japanese colonies and mandated territory are handled separately from those of Japan proper. Inasmuch, however, as the expenditures typically exceed the revenues, including the proceeds of loans, they receive considerable aid from the national government. In the discussion which follows, we shall take up first the fiscal condition of each individual colony, and then

consider the colonies as a whole in order to reveal the extent to which they are dependent upon the national government for assistance.¹²

1. *Taiwan*. The taxation system of Taiwan is very similar to that of Japan proper. The principal sources of tax revenues are the land and mining taxes, import

PRINCIPAL FORMS OF EXPENDITURES OF



duties, income and excise taxes, and tonnage dues. As special features, we find a tax on tea and on the issue of Bank of Taiwan notes. The revenues and expenditures for the fiscal year ending March 31, 1929, are shown by the table on page 228.

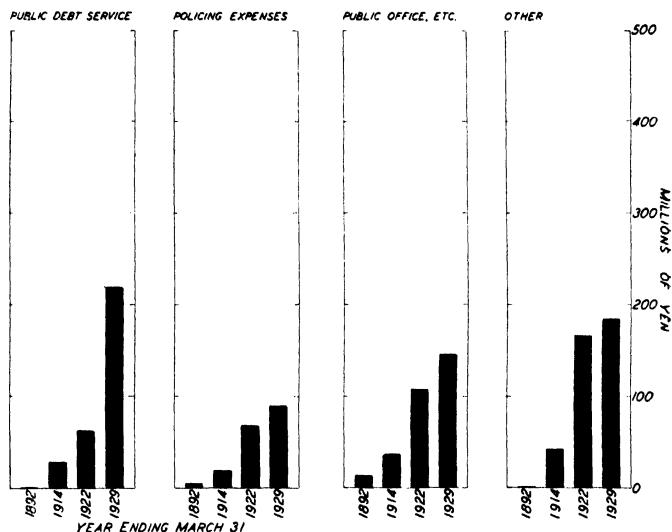
The deficit, amounting to 3,395,000 yen, was more than covered by loans, which aggregated for the year

¹² Data in this section were compiled by the Bank of Japan from *Final Accounts of Government Revenues and Expenditures* as presented to the Imperial Diet by the Japanese Government.

4,717,679 yen. The flotation of bonds began in 1919, and by the end of 1928-29 the total outstanding was 109,012,000, while other borrowings had amounted to 3,200,000 yen.

The fiscal situation in Taiwan has shown steady improvement since the annexation of the island by

LOCAL GOVERNMENTS, 1892-1929 ^a



^a See Table 55, p. 582, for detailed annual figures.

Japan. Until 1909 the contributions from the central government had aggregated 44,156,122 yen; but since that year Taiwan has been fiscally self-sustaining. The panic of 1927, however, made it necessary for the federal government to issue 204,987,225 yen of bonds for relief purposes in Taiwan. (See Chapter XVI, page 310.)

2. *Chosen*. In addition to the ordinary taxes, this colony derives revenue from the tax on tobacco plantations, on the issue of Bank of Chosen notes, and from

ships' clearance dues. The revenues and expenditures for the fiscal year ending March 31, 1929, are given in the table on page 229.

The deficit of 20,750,000 yen was not quite covered by loans, which amounted to 17,819,964 yen. It will be seen also that the contributions of the central government were substantial, equalling 17 per cent of the

NON-BORROWED REVENUES AND EXPENDITURES OF TAIWAN, 1929
(In thousands of yen)

Revenues			Expenditures		
Source	Amount	Per-centage Distribution	Purpose	Amount	Per-centage Distribution
Government enterprises and properties ^a ..	28,903	51.7	Education.....	5,323	9.0
Taxes	20,794	37.3	Services on loans	5,254	8.9
Fees.....	4,540	8.1	Justice.....	2,501	4.2
Other receipts..	1,634	2.9	Other, and general administration..	46,188	77.9
Total.....	55,871	100.0	Total.....	59,266	100.0

^a Treasury reports give the gross revenues for government enterprises and place the outlays on the expenditures side. In order to make comparisons with other sources of revenue, we have in this and the following tables dealing with the separate colonies deducted the expenditures from the gross receipts. In the case of *properties*, however, expenditures cannot be separated from general administration outlays; hence the inclusive *net* figure given is not precise.

non-borrowed revenues. The total contribution made by the central government from the date of annexation in 1910 to the end of 1929 was 210,276,804 yen. The volume of internal loans outstanding at the end of the fiscal year 1928-29 was 297,072,000 yen, while other borrowings amounted to 56,185,000 yen.

3. *Karafuto*. The only special sources of revenue which *Karafuto* possesses are ships' clearance dues and

NON-BORROWED REVENUES AND EXPENDITURES OF CHOSEN,
1928-29

(In thousands of yen)

Revenues			Expenditures		
Source	Amount	Per-centage Distribution	Purpose	Amount	Per-centage Distribution
Taxes	44,633	49.2	Services on loans	17,554	15.8
Government enterprises and properties ...	12,293	13.6	Justice	7,950	7.1
Fees	11,950	13.2	Education	7,711	6.9
Other receipts..	6,313	7.0	Other, and general administration..	78,182	70.2
Contributions from central government..	15,458	17.0			
Total	90,647	100.0	Total	111,397	100.0

a fishing tax. The revenues and expenditures for the fiscal year ending March 31, 1929 are shown below.

NON-BORROWED REVENUES AND EXPENDITURES OF KARAFUTO,
1928-29

(In thousands of yen)

Revenues			Expenditures		
Source	Amount	Per-centage Distribution	Purpose	Amount	Per-centage Distribution
Taxes	1,811	17.3	Education	1,738	14.2
Government enterprises and properties ...	701	6.7	Services on loans	1,559	12.7
Fees	504	4.8	Justice	620	5.1
Other receipts..	5,395	51.8	Other, and general administration..	8,321	68.0
Contributions from central government..	2,030	19.4			
Total	10,441	100.0	Total	12,238	100.0

Loans amounting to 1,857,924 yen were more than sufficient to cover the deficit of 1,797,000 yen. Contributions from the central government equalled 19.4 per cent of the non-borrowed revenues. The aggregate contributions made by the Japanese government since obtaining possession of the island in 1906 have aggregated 19,409,176 yen. The loans floated and outstand-

NON-BORROWED REVENUES AND EXPENDITURES OF KWANTUNG
PROVINCE, 1928-29
(In thousands of yen)

Revenues			Expenditures		
Source	Amount	Per-centage Distribution	Purpose	Amount	Per-centage Distribution
Taxes.....	4,561	33.7	Justice.....	4,556	32.5
Government enterprises and properties...	3,128	23.2	Education.....	2,200	15.7
Fees.....	883	6.5	Services on loans	145	1.0
Other receipts..	912	6.8	Other, and general administration ..	7,107	50.8
Contributions from central government..	4,000	29.8			
Total.....	13,484	100.0	Total.....	14,008	100.0

ing on March 31, 1929, amounted to 29,077,000 yen, while other borrowings equalled 3,378,000 yen.

4. *Kwantung Province.* Although this mainland province is a leased territory and not a colony, it receives substantial contributions from the Japanese treasury, and from the fiscal point of view is a part of the colonial system. It is, therefore, treated at this place as though it were a colony. Kwantung has a salt and tobacco tax in addition to the usual sources of revenue. The fiscal operations for the year ending March 31, 1929 are given in the table above.

The deficit of 524,000 yen was covered by loans aggregating 928,957 yen. The contribution of the Japanese government amounted to 29.7 per cent of the total non-borrowed revenues. Since this province came under the administration of Japan, total contributions have aggregated 59,658,189 yen. The government loans outstanding on March 31, 1929, were 3,681,000 yen, while other borrowings equalled 265,000 yen.

NON-BORROWED REVENUES AND EXPENDITURES OF NANYO, 1928-29

Revenues			Expenditures		
Source	Amount	Per-centage Distribution	Purpose	Amount	Per-centage Distribution
Taxes	1,122,536	29.0	Education	43,641	1.2
Government enterprises and properties....	910,390	23.6	Justice	4,849	0.1
Fees.....	11,280	0.3	Services on loans.....	3,870	0.1
Other receipts..	18,715	0.5	Other, and general administration	3,697,200	98.6
Contributions from central government..	1,800,000	46.6			
Total.....	3,862,921	100.0	Total.....	3,749,560	100.0

5. *Nanyo*. The South Sea Islands which are under Japanese mandate levy poll tax and ships' clearance dues, in addition to customs duties and a mining tax. Revenues and expenditures for the fiscal year ending March 31, 1929 are given in the table above.

Contributions from the national government, it will be observed, comprised nearly half of the total revenues in this year. Expenditures are chiefly for purposes of general administration. The interest and sinking fund requirements on loans were negligible in amount, the total public loans outstanding at the end of 1928-29 amounting to only 77,000 yen.

6. *The colonies as a group.* The total revenues and expenditures of the five colonial governments for the financial years 1910-11 to 1928-29 inclusive are shown in the following table. The surplus, or deficit, column represents the difference between locally raised non-

COMBINED FISCAL OPERATIONS OF FIVE COLONIAL GOVERNMENTS,
1910-1929 ^a

(In thousands of yen)

Period or Year Ending March 31	Ex- pendi- tures	Non- Borrowed Local Revenues	Contri- butions from Cen- tral Gov- ernment	Surplus (+) or Deficit (—)	Loans Floated	Accum- ulated Surplus
1910-1914 (Average)	84,058	65,347	11,184	— 7,527	11,028	19,324 ^b
1915.....	108,986	84,041	11,556	— 13,389	10,688	13,980
1916.....	100,919	81,355	10,260	— 9,304	10,339	15,017
1917.....	106,309	96,450	9,300	— 559	12,161	26,620
1918.....	104,059	103,673	7,323	+ 6,937	14,209	47,766
1919.....	129,265	122,155	7,417	+ 307	18,830	66,903
1920.....	180,648	157,175	3,300	— 20,173	18,813	65,568
1921.....	237,346	177,517	14,445	— 45,384	34,707	54,692
1922.....	268,791	196,900	20,858	— 51,033	47,296	50,955
1923.....	290,118	208,214	27,464	— 54,440	42,832	39,594
1924.....	271,136	234,248	27,782	— 9,106	8,278	37,014
1925.....	260,180	224,511	30,163	— 5,506	9,265	40,774
1926.....	295,289	272,775	23,068	+ 554	10,877	52,206
1927.....	317,673	294,703	26,938	+ 3,968	17,990	74,135
1928.....	353,970	305,603	24,054	— 24,313	25,754	75,576
1929.....	377,879	328,247	23,281	— 26,351	25,323	74,549

^a Compiled by the Bank of Japan from *Final Accounts of Government Revenues and Expenditures* as presented to Imperial Diet by the Japanese Government. Includes Kwantung leased territory.

^b The accumulated surplus of March 31, 1914 from which the 1915 figure was derived was 20,885.

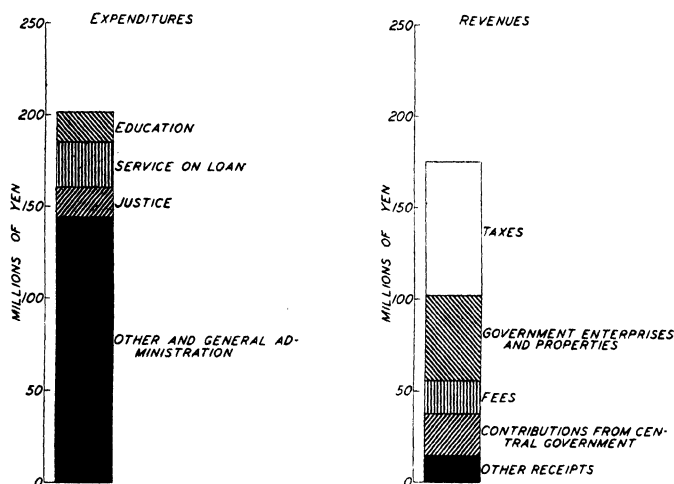
borrowed revenues, plus contributions from the central government, and total expenditures.

The steady increase in expenditures has been closely paralleled by an increase of non-borrowed local revenues. The loans have shown only a moderate increase, and the accumulated surplus has grown to a substantial

amount. The contributions from the central government will be discussed presently.

The purposes for which expenditures were made by the colonies as a group for the year ending March 31, 1929, are indicated in the following diagram. The largest expenditures come under the last category, which includes general administration other than for

EXPENDITURES AND REVENUES OF FIVE COLONIAL GOVERNMENTS,
1929 ^a



^a See pp. 228-231 inclusive for data.

the special departments mentioned. The interest and sinking fund on account of loans (debt service) ranks second in importance.

The sources of revenue of the colonial governments are, on the whole, similar to those of the home government. The classified revenues for all the colonies for the year ending March 31, 1929, are given in the diagram above.

The largest single item is taxes, and the next is the receipts from government enterprises and monopolies. The principal monopolies in Taiwan are camphor, salt, opium, tobacco, and alcoholic beverages other than beer; and in Chosen, tobacco, ginseng, and salt.

The contributions from the central government for the support of the colonies have shown a steady increase since pre-war days. The central government provides in its general budget for military and naval protection of the colonies.

From a fiscal point of view, therefore, the colonies as a whole have thus far clearly been a liability rather than an asset. The economic importance of the colonies cannot be fully appraised, however, without reference to their commercial relations with Japan proper and without consideration of their value as outlets for the surplus population of the Japanese islands. Discussion of these aspects of the colonial problem is reserved for the chapters on foreign trade and population respectively.

CHAPTER XII

GROWTH OF THE PUBLIC DEBT

The growth of a nation's public indebtedness is the direct result of that nation's fiscal operations. That is to say, when actual receipts from taxes and other sources of current revenue are less than expenditures the deficiency has to be borrowed. The amount of the public debt at any given time is therefore equal to the accumulated annual budget deficits,¹ embracing not only the ordinary accounts but all special accounts as well. Accordingly, in the absence of adequate fiscal data it is possible to measure the results of budget operations over a period of years by reference to the public debt figures; this device was in fact employed in the preceding chapter.

While government bond issues always reflect an excess of expenditures over non-borrowed revenues, the economic effects of borrowing operations vary with the purpose for which the bonds are issued. Loans floated for the purpose of acquiring or developing revenue-producing properties for the government must obviously be viewed in a different light from those which are floated for the purpose of meeting current operating expenses that cannot be covered by current revenues. A considerable part of the Japanese public indebtedness, national, local, and colonial, has in fact been incurred for productive purposes. This is notably the case with the railways of the national government and with public utility enterprises of the local governments. Unfortunately, the method of accounting is such that one cannot, in all cases, segregate that

¹ See note 10, p. 211, for qualifications of this statement.

portion of the public debt which was incurred in acquiring productive assets; but in the following analysis this segregation has been made wherever possible.

I. THE NATIONAL GOVERNMENT DEBT

In presenting the debt figures of the national government, we segregate the debt incurred in connection with the government railways. Since the earnings of the railways have all along been more than sufficient to meet interest charges, this indebtedness is in the nature of an asset, just as are the bond issues of private corporations which are floated for the purpose of developing productive fixed capital. The same is true of the mortgage indebtedness incurred in connection with the government iron foundry, which has also been a self-sustaining enterprise. In Table 59 on page 588, which shows the general public debt, the growth of the railway and iron foundry indebtedness is shown in separate columns.

The development of the postal, telegraph, and telephone services has also involved some increase of bonded indebtedness; but under the method of accounting employed it is impossible to segregate the figures. These accounts, it will be recalled, unlike those of the railway and iron foundry, have been handled as a part of the general budget. Instead of floating bonds specifically for the purpose of developing these services, ordinary treasury funds have been employed, including the proceeds of general loans. It is estimated that something over 100,000,000 yen have been derived from loans. In the absence of precise figures, however, it is impossible to make a deduction from the public debt figures for funds spent in the development of these services. There are some other public works which are in the same category, though only those mentioned above are directly productive in character.

The debts of the colonial governments are included as part of the national debt. These debts, like those of Japan proper, have in part been incurred in connection with the development of productive enterprises. We found in Chapter V, however, that the development of the railroads of Taiwan and Karafuto had been financed by the general budget rather than through bond issues, and that the railroads of Chosen showed a return equal to only about 3 per cent on the capital invested. Since the colonial railways as a whole are still operated at a loss, we are making no effort to segregate the railway debt of the colonies from the rest of the colonial debt.

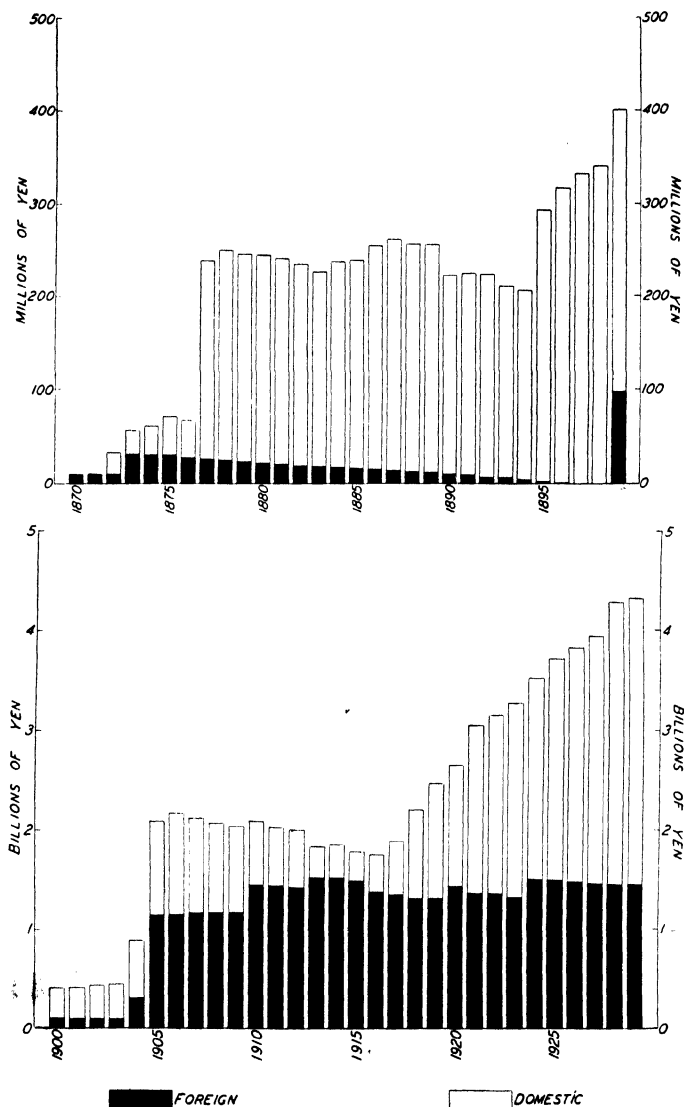
The diagrams on page 238 show the growth of the combined domestic and foreign indebtedness of Japan, including the colonies, but exclusive of the national government railways and the government iron foundry. The figures include short-term obligations as well as long-term bonds. The data are given for calendar years, inasmuch as data for fiscal years are not available prior to 1907. Table 59, page 588, in addition gives the railway and iron foundry indebtedness.

The issue of bonds by the Japanese government began in 1870 with the flotation of a foreign loan of £1,000,000 (9,763,000 yen) in London at a price of 98, bearing interest at 9 per cent, and maturing in 1882. In 1873 a 7 per cent loan of £2,400,000 was issued at a price of 92.5, to mature in 1897. No other foreign loans were contracted until 1899, and both of these loans were paid at maturity.

The first domestic bond issues bear the date of 1872,² and were floated for the purpose of indemnifying those adversely affected by the abolition of the feudal system. The domestic debt expanded rapidly until

² They were actually issued in March, 1873, but bore interest from 1872.

GROWTH OF THE NATIONAL DEBT OF JAPAN, 1870-1929^a



^a See Table 59, p. 588, for data. Because of the wide range of the data in this chart, it was necessary to utilize two different scales.

1878, and then remained nearly stationary until the Chino-Japanese War of 1895. The total debt, domestic and foreign, was slightly lower in the early nineties than it was in the late seventies, and the foreign debt was entirely liquidated in 1897.

The domestic debt increased substantially as a result of the Chino-Japanese War and the expansion of enterprise which immediately followed. In 1899 a loan of £10,000,000, maturing in 1953, was floated in London. The interest rate was as low as 4 per cent, but since the issue price was 90 the cost to the Japanese government was 4.4 per cent, exclusive of commissions.

The Russo-Japanese War of 1904–1905 led to a sharp increase in both the domestic and the foreign debt. In fact, the total debt increased from the end of 1903 to the end of 1905 by 1,637,620,000 yen, of which the increase in the foreign indebtedness accounted for 1,044,641,000 yen. The first two foreign loans, aggregating £22,000,000, floated in London in May and November of 1904, were for seven years, bore interest at 6 per cent, and were issued at a price of 93.5 and 90.5 respectively. After fortune smiled on the Japanese arms, it proved possible to float three loans—in March, July, and November of 1905—on a much more advantageous basis. The March and July loans of £30,000,000 were for 20 years each, bore interest at 4.5 per cent, and were issued at 90. The November loan, amounting to £25,000,000, which was issued for the purpose of redeeming the 6 per cent internal exchequer bonds, carried a rate of 4 per cent and was issued at 90.³

After the Russo-Japanese War, the total indebtedness increased slowly until 1910 and then declined slightly in the years immediately before the World

³ For the special account covering war finances see Table 50, p. 576.

War. The extent of the improvement in the government's credit is evidenced by the fact that in 1910 the government floated a 60-year loan of £11,000,000 in London, and another 60-year loan of 450,000,000 francs in Paris, both bearing interest at 4 per cent, and selling at 95 and 95.5 respectively. These loans were floated for the purpose of retiring domestic loans.

From the end of 1913 to the end of 1916, the total debt was decreased by about 131,000,000 yen. Then, during the next three years, it increased by more than 700,000,000 yen. During the war period, it would have been possible to reduce the debt substantially had the budget surpluses been devoted to that purpose. We saw in the preceding chapter, however, that the excess of revenues derived from fiscal operations was largely employed in building up a treasury surplus. In fact, between March 31, 1914 and March 31, 1919, the treasury surplus was increased by about 360,000,000 yen, whereas it could have been more advantageously employed in the reduction of debt and the saving of interest charges.⁴

The large budget deficits of the post-war years are reflected in the virtual doubling of the public debt since 1918. The latest foreign loans were floated in May, 1930—a \$71,000,000 loan in New York and a £12,500,000 loan in London. Both were issued at 90, bearing interest at 5.5 per cent, and maturing in 1965. The cost, without allowing for commissions paid, equals approximately 6 per cent.⁵

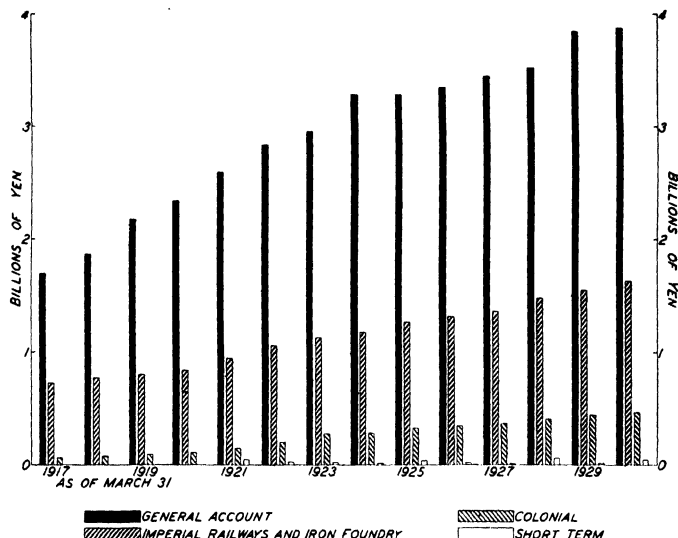
The Japanese government has never resorted extensively to short-term borrowing. The only treasury bills issued prior to 1901 were small amounts in the

⁴ See Chap. XIV, p. 289.

⁵ In June, 1931 the Taiwan Electric Power Company, Ltd. floated in New York a loan of \$22,800,000 with the guaranty of the Japanese Government.

three years 1886 to 1888. From 1901 to 1914 the amount outstanding at the end of the year ranged from 10,000,000 yen to 104,000,000 yen. Since 1914 this account has never assumed large proportions. Beginning with 1921, under the Rice Control Act,⁶ the government rice purchase notes appear in the debt state-

NATIONAL DEBTS CLASSIFIED BY SEPARATE ACCOUNTS, 1917-1930^a



^a See Table 60, p. 590, for data.

ments in most years, the highest total, at the end of 1929, being 31,672,000 yen.

It will be recalled that, in the diagram on page 238, we excluded from the national debt the bonds floated for the Imperial railways and the government iron foundry. The chart above shows the inclusive debt figures beginning with the fiscal year 1916-17 classified by the purposes for which they were incurred, under

⁶ See Chap. XVII, p. 317.

the headings: (1) general account; (2) railways and iron foundry; (3) colonies; and (4) short-term debts, which include treasury bills and rice purchase notes.

CLASSIFICATION OF THE NATIONAL DEBT OF JAPAN, 1929 and 1930
(In thousands of yen)

	Dec. 31, 1929	Dec. 31, 1930
I. DOMESTIC DEBT—		
Long-term obligations:		
Imperial 5% loan bonds.....	1,236,232	1,367,268
Special 5% loan bonds.....	120,822	120,818
5% loan bonds (Ko).....	418,096	406,751
Imperial 4% loan bonds (1st series)	169,374	166,681
Imperial 4% loan bonds (2d series)	95,785	95,208
5% exchequer bonds.....	2,338,516	2,225,111
Railway notes	80,000	79,999
Short-term obligations:		
Government rice purchase notes.	31,672	—
Treasury bills	95,000	190,000
Total domestic debt.....	4,585,497	4,651,837
II. FOREIGN DEBT—		
Long-term obligations:		
4% sterling loan bonds (1st series)	91,338	91,338
4% sterling loan bonds (2d series)	228,906	86,462
5% sterling loan bonds.....	222,673	222,672
4% franc loan bonds.....	169,367	169,320
4% sterling loan bonds (3d series)	105,430	105,430
6½% dollar loan bonds.....	269,448	269,447
6% sterling loan bonds.....	242,578	241,036
Debentures of South Manchurian Railway Co.....	117,156	117,156
5½% sterling loan bonds.....	—	122,037
5½% dollar loan bonds.....	—	142,426
Total foreign debt.....	1,446,896	1,567,325
Total national debt.....	6,032,393	6,219,162

It will be seen that the debt of the railways and iron foundry has increased at approximately the same rate as that incurred under the general account, and that it comprises at present a little over 25 per cent of the total indebtedness.

The debt of the colonies has increased in relative amount, rising from 2.4 per cent of the total in 1916-17 to 7.8 per cent in 1929-30. In 1917 the debts of Chosen and Taiwan stood at 31,052,000 yen and 26,951,000 yen respectively. By 1930 the debt of Chosen had grown to 318,451,000 yen, a tenfold increase, while the debt of Taiwan had increased to only 113,662,000 yen, or less than fivefold.

The table on page 242 shows the classified domestic and foreign loans of the Japanese government which were outstanding on December 31, 1929 and December 31, 1930.

It will be seen that nearly all of the domestic long-term loans bear a rate of 5 per cent. At the market prices prevailing in 1920 the yield on government domestic bonds was about 5.5 per cent. Most of them have a maturity of 55 years. For a table giving the pertinent data with reference to all of the foreign loans that have ever been floated by the Japanese government, see Appendix A, page 488.

II. LOCAL GOVERNMENT INDEBTEDNESS

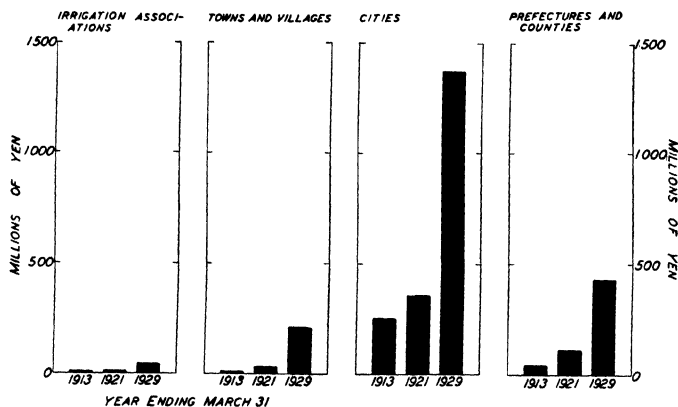
The local governments have for many years engaged in extensive credit operations. The cities have been the largest borrowers, with the prefectures occupying second place. Expenditures by towns and villages have, however, increased very rapidly in recent years. The growth of local government indebtedness classified according to type of borrowing agency since 1912-13 is shown by the diagram on page 244.

As was indicated in the preceding chapter, a considerable part of the expenditures of local governments has been devoted to purposes which are directly or indirectly productive. As a preliminary to the discussion of the growth and significance of local government indebtedness, therefore, we present a statement

of the amount of all local bonds outstanding at the end of the fiscal year 1928-29, classified by the purposes for which they were issued.

	Yen
Electric and gas works.....	554,372,027
Public works (roads, bridges, river embankments, etc.)	477,916,392
Sanitation (waterworks, sewerage, etc.).....	272,205,502
Education	172,175,166
Social services	134,461,091
Encouragement of industries.....	76,434,895
Others	362,817,923
Total.....	2,050,382,996

LOCAL INDEBTEDNESS, 1913-1929 ^a
(Classified according to borrowing agencies)

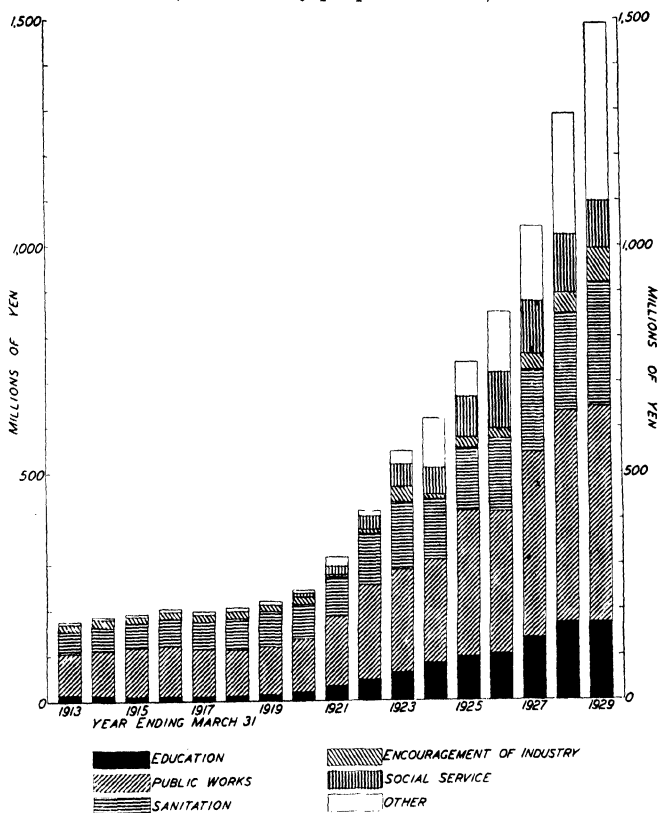


^a See Table 58, p. 587, for data.

Loans made for the encouragement of industries may be regarded as in some measure indirectly productive; and those made for public works, sanitation, education, and social services are, of course, not without economic significance. However, the only ones which may, like the national government railways, properly be excluded from a statement intended to show the real growth of

the public debt are those floated for the development of the revenue-producing electric and gas works.⁷ In the

GROWTH OF LOCAL INDEBTEDNESS, 1913-1929^a
(Classified by purpose of issue)



^a See Table 61, p. 592, for data.

accompanying diagram showing the growth of the public debt from 1913 to 1929, these loans have accordingly been excluded from the total.

⁷ For revenues actually received from this source, see Table 56, p. 584.

III. PUBLIC DEBT OF JAPAN AND OTHER COUNTRIES COMPARED

In the first section of this chapter we found that the public debt of Japan had grown from nothing at the beginning of the modern era in 1870 to 4,553,497,000 yen in 1930—exclusive of those obligations that were incurred in the development of productive assets. If one is to appraise the significance of this national indebtedness, it is necessary to make comparisons with other countries. Accordingly, we present in this section data on the debts of various countries, in relation to population and in relation to national wealth.

The first table shows the per capita national public debt of Japan, Italy, the United States, France, and Great Britain for the years 1913 and 1928. The figures for Italy, France, and Great Britain are exclusive of reparation assets and of inter-allied war debt obligations, the assumption being made for the purpose in hand that reparation receipts—whatever they may prove to be in the long run—will roughly offset the war debt obligations.⁸ Similarly, the United States figure is gross debt with no deduction for inter-allied credits. The railway indebtedness, in all cases where the railways are owned by the government and operated as revenue-producing enterprises, has been eliminated. The French and British figures, however, include the capitalized

⁸ It should be noted that this assumption is entirely justifiable in the case of Great Britain, since it is the policy to collect from her debtors only the sums necessary for meeting her own debt payments to the United States. In the cases of France and Italy, however, reparation receipts at present exceed inter-allied debt payments. If the capital sums represented by these credit balances were deducted from the debt figures shown in the table on page 247, the total net indebtedness would be considerably reduced in the case of France and slightly reduced in the case of Italy. Similarly, if the inter-allied debts to the United States be considered, the total United States debt would be very materially reduced.

values of certain relatively unimportant so-called annuities.

The per capita debt of Japan was much smaller in 1913 than that of any of the other countries with which comparison is made. It was a little over one-half that

NATIONAL PER CAPITA DEBT OF SELECTED COUNTRIES,
1913 and 1928 ^a

(Population in thousands and total debt figures in thousands of yen)

Country	1913			1928		
	Debt	Population	Per Capita Debt (Yen)	Debt	Population	Per Capita Debt (Yen)
Japan ^b	1,872,813	53,362	35.10	4,282,470	64,448	66.45
Italy ^c	5,855,817	35,598	164.50	9,315,739	40,799	228.33
United States ^d	5,849,519	96,512	60.61	35,314,526	119,300	296.01
France ^e	13,044,445	39,790	327.83	22,590,683	40,960	551.53
Great Britain ^f	6,943,801	46,040	150.82	64,110,126	45,435	1,411.03

^a The debt data are compiled from the following sources: Japan, Japanese Treasury Department; Italy and France, (1913) Institute of International Finance *Bulletins*, No. 36 and No. 1 respectively, (1928) *International Statistical Year Book and Kimber's Record of Government Debts*, 1930; Great Britain, (1913 and 1928), His Majesty's Stationery Office, *National Debt*; United States, Secretary of the Treasury *Annual Reports*. The population data, (1913) *International Statistical Year Book*, 1928, (1928) data from *Commerce Year Book*, 1928, Vol. II, except for Japan which is the official census figure for 1930.

^b As of December 31, 1913, and December 31, 1928.

^c As of June 30, 1913, and June 30, 1928.

^d As of June 30, 1913, and June 30, 1928.

^e As of July 31, 1914, and December 31, 1928.

^f As of March 31, 1913, and March 31, 1928.

of the United States, about one-fifth that of Italy, one-fourth that of Great Britain, and one-ninth that of France. Between 1913 and 1928 the per capita debt of Japan increased slightly more rapidly than that of Italy and France, but very much less rapidly than that of Great Britain, Germany, and the United States. The

relatively slow rate of increase in the debts of Italy and France is, of course, attributable to the fact that about three-fourths of the total indebtedness in the case of Italy and four-fifths in the case of France have in effect been repudiated by virtue of the stabilization of the exchanges at new levels. It should be borne in mind in this connection, however, that the fiscal gain accruing to the government that results from this process is substantially if not wholly offset by the economic

RELATION OF PER CAPITA INDEBTEDNESS AND WEALTH
In Selected Countries

Country	Per Capita Indebted- ness, 1928 ^a	National Wealth ^b (In mil- lions of yen)	Per Capita Wealth (In yen)	Per Capita In- debtedness as a Percentage of Per Capita Wealth
Japan.....	66.45	102,342	1,731	3.84
Italy.....	228.33	56,858	1,386	16.47
United States.....	296.01	842,361	7,024	4.21
France.....	551.53	141,429	3,440	16.03
Great Britain.....	1,411.03	220,744	4,778	29.53

^a See footnotes to the table on p. 247 for sources and details.

^b Estimates are for 1928 except for Great Britain, which is for 1925, and Japan, which is for 1924. Authorities for the estimates are as follows: *Bureau of Statistics* for Japan; *Flora* for Italy; and *Gini* for the United States, France, and Great Britain. See *Dresdner Bank, Economic Forces of the World*, 1930.

losses sustained by the owners of government and other bond and mortgage obligations whose value is similarly depreciated.

The mere figures of per capita indebtedness do not, however, provide an adequate measure of the burden of the public debt. Consideration must obviously also be given to the amount of the public debt in relation to the national wealth. In the table above we therefore show for these same countries the per capita indebtedness in 1928, and the per capita wealth for the latest years for which data are available.

Again, Japan's position appears to compare very favorably with that of other countries. The percentage of per capita indebtedness to per capita wealth is lower even than that in the United States and is very much lower than in the European countries. Inasmuch, however, as a relatively large proportion of the public debt of Japan has been floated abroad, Japan's position is much less favorable than these figures would indicate.

The economic significance of a domestic public debt is essentially different from that of a foreign public

RELATION OF FOREIGN AND DOMESTIC INDEBTEDNESS TO WEALTH *
In Selected Countries

Country	Indebtedness, 1928 (In thousands of yen)		Per Capita Indebtedness, 1928 (In yen)		<i>Per Capita Indebtedness as a Percentage of Per Capita Wealth</i>	
	Foreign	Domestic	Foreign	Domestic	Foreign	Domestic
Japan	1,453,093	2,829,380	22.55	43.90	1.30	2.54
Italy	194,256	9,121,483	4.76	223.57	0.34	16.13
United States	—	35,314,526	—	296.01	—	4.21
France	1,384,307 ^b	21,206,376	33.80	517.73	0.98	15.05
Great Britain	305,771 ^b	63,804,355	6.73	1,404.30	0.14	29.39

* See footnotes to the tables on pp. 247 and 248 for sources.

^b Commercial debt.

debt. In the former case, the funds required in payment of the debt are collected from the taxpayers of the nation, and, after passing through the treasury, are disbursed to owners of government securities living within the country; in the latter case the taxpayers' money is disbursed to foreigners. In liquidating or in meeting interest payments on a foreign debt, the total wealth of the country is reduced; in the case of the domestic debt, wealth is merely redistributed. In the final table in this section (see above) we therefore show

the per capita wealth in relation to the domestic and the foreign public debt separately.

It will be seen from this table that the foreign indebtedness of the Japanese government bears a higher ratio to the per capita wealth than does the foreign debt of any of the other countries under consideration. The entire debt of the United States and almost the entire debt of Great Britain are domestic. The reader should, however, bear in mind in connection with this table that in the case of most, if not all, of the countries under consideration some of the bonds issued in the domestic market, and therefore classed as domestic, have been purchased by foreigners.

While the payment of interest on a domestic debt, as has been pointed out, involves merely a redistribution of wealth within the country, it should not be assumed that large domestic indebtedness is of no consequence. The rapid growth of a domestic debt complicates the government's fiscal problem and increases the likelihood of business and social unrest, financial instability, and attendant economic difficulties. For example, it would be quite erroneous to assume that, because Great Britain's public debt is almost entirely domestic, it is of no economic significance, for it is well known that the taxes that have to be raised for the purpose of meeting annual interest charges present a most serious problem. Similarly, it would be incorrect to assume that the fact that Japan's total public debt is relatively small—even though the foreign part of it is relatively large—is of no economic significance. The Japanese government is in a more favorable position, in case of need, to float bonds in the domestic market than are the countries whose domestic indebtedness is extremely heavy.

We may fairly conclude, therefore, that on the whole Japan's public debt situation compares favorably with

that of other leading countries. In view of the present distribution of the debt, it would, however, be distinctly unfortunate if the foreign indebtedness continued to increase. Every effort should be made to float such additional loans as may be required in the domestic market. The problem of preserving a balance in the international accounts (see discussion, page 415) points to the same conclusion.

In closing this discussion, it should be pointed out that the rate of interest paid by the government of Japan on domestic loans is somewhat higher than that of the other countries under consideration. The average cost to the government on domestic bond issues during recent years has been 5.5 per cent, as compared with 5.26 per cent in Italy, 4.87 per cent in Great Britain, 5.5 per cent in France, and 3.62 per cent in the United States. The cost on foreign loans has been about 6.4 per cent in Japan, which it is interesting to note is lower than in Italy, where the cost has recently been as high as 7.3 per cent. As we shall see in Chapter XXII, the relatively high rates of interest on domestic issues in Japan are primarily to be explained by factors other than the risks involved in government loans.

CHAPTER XIII

FOREIGN TRADE

As a result of the national policy of seclusion that had prevailed for generations, the Japanese people were, at the opening of the Meiji era, wholly inexperienced in the conduct of foreign trade. In consequence, the developing foreign commerce of the country was carried on for many years almost entirely by foreign residents. However, with the development of a mercantile marine and the organization of the Yokohama Specie Bank (see Chapter IX, page 164), the primary function of which was to facilitate the financing of foreign trade, the Japanese gradually took over the management of trading operations with other countries. But even today a considerable part of the foreign business of the country is handled by alien merchants.¹

Statistics of foreign trade are available from the very beginning of the Meiji era, and we are accordingly able in this chapter to present a fairly complete record of trade expansion since the end of the feudal period. In order to indicate the economic importance of the colonies which Japan has acquired, the discussion is divided into two major parts, dealing respectively with Japan proper and the colonies.

I. JAPAN PROPER

The expansion in the aggregate foreign trade of Japan reveals perhaps better than does any other single index the general growth of the country's economic

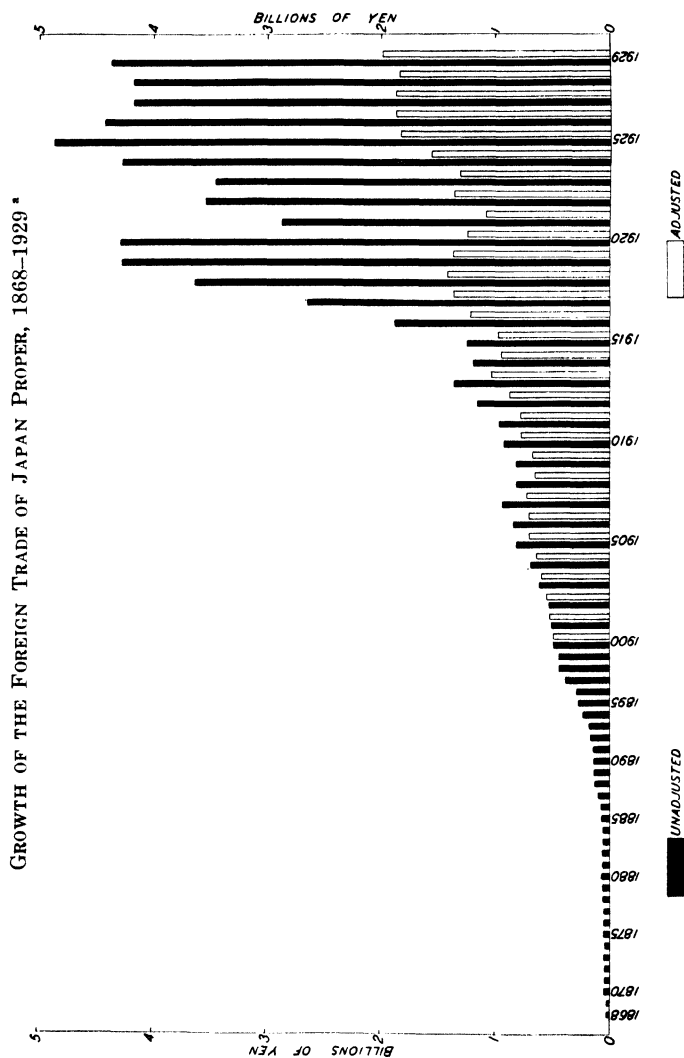
¹ For example, it is estimated that 7 per cent of the raw silk and 31 per cent of the silk goods exported, and 11 per cent of the cotton imports, are handled by foreigners.

activities and the periods at which development has been most rapid. Hence we present, first, a discussion of the growth of exports and imports combined. This will be followed by the data as to the balance of trade and the geographic distribution and character of both imports and exports.

1. *Growth of trade.* The diagram on page 254 shows the growth of Japanese foreign trade from 1868 to 1929 inclusive. Until the late nineties, the trend of prices in Japan, as elsewhere, was downward; hence the actual trade figures tend to understate the extent of trade expansion. Since the Japanese price index does not begin until 1900, it is impossible to make any adjustment for price changes during the earlier years. For the period since 1900 we use first the actual data and then adjust the value figures by the index number of Tokyo wholesale prices.

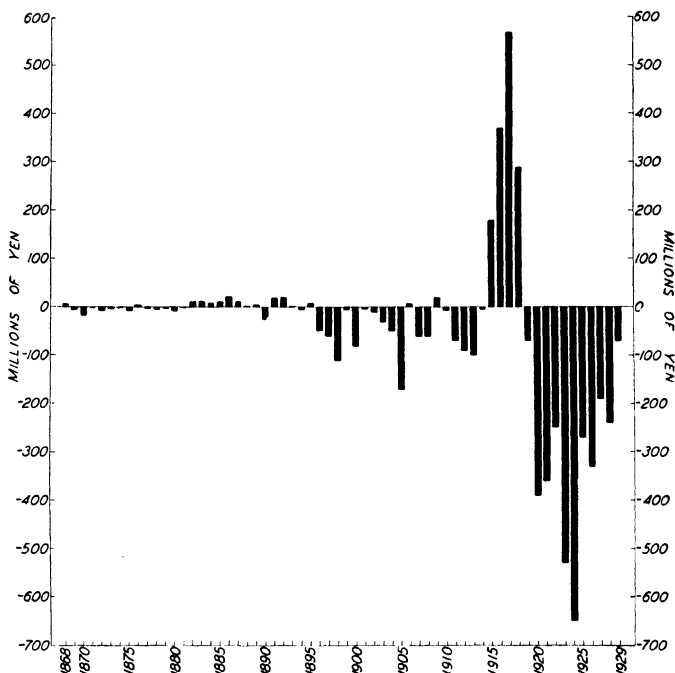
It will be seen that the growth of foreign trade was very slow during the seventies and eighties. The development of industry which began in the nineties and was greatly stimulated by the war with China is reflected in an approximate tripling of the total volume of trade between 1890 and 1897. Between 1900 and 1914 there was a steady expansion except during the depression years of 1907 and 1908.

Between 1914 and 1918 there was a substantial growth of foreign trade. The unadjusted data indicate a tremendous expansion; but when the figures are adjusted for price changes the growth appears much more moderate. It should be noted, however, that inasmuch as many relatively unimportant commodities which enter into the Japanese unweighted index number rose in price much more rapidly during this period than did Japan's most important commodities, the adjusted figures tend to understate somewhat the



growth of foreign trade during the war years. The unadjusted data show that the war trade peak was reached in 1920, while the adjusted data indicate that the actual decline began in 1919. Following the depres-

BALANCE OF TRADE OF JAPAN PROPER, 1868-1929 *

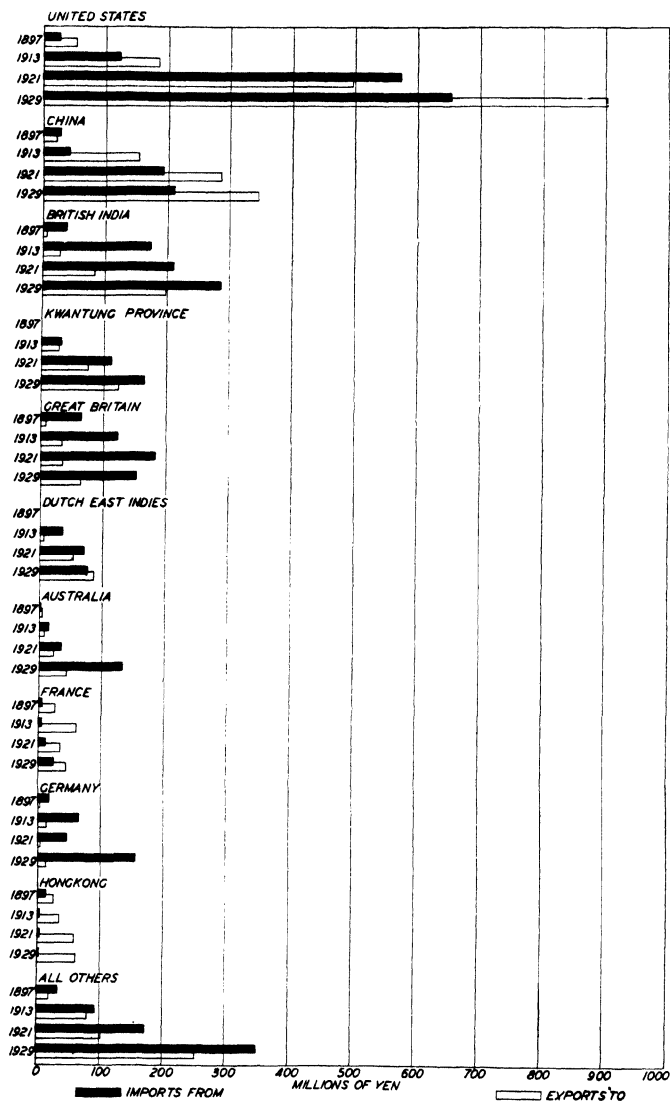


* See Table 62, p. 593, for data.

sion of 1921, foreign trade continued to expand to the end of 1929, though the growth has been small since 1925.

2. *The balance of trade.* Japan has passed through alternating periods of so-called favorable and unfavorable trade balances. In the seventies imports exceeded exports, except in one year, while in the eighties and

GEOGRAPHIC DISTRIBUTION OF FOREIGN TRADE OF JAPAN PROPER By Selected Years *



* See Table 63, p. 595, for data.

early nineties exports usually exceeded imports. From 1896 to the World War imports were again substantially in excess of exports. During the war years there was an enormous export surplus. After the war large trade deficits again occurred, reaching a maximum after the earthquake of 1923. Since 1925 there has been a substantial improvement in the trade balance. These changes are shown in the diagram on page 255. Since we are not concerned in measuring the growth of trade, we here use unadjusted data, the actual figures being found in Table 62, page 593.

The general economic significance of these shifts in the trade situation will be discussed in Chapter XIV in connection with the total balance of international trade and financial relations.

3. *Trade distribution.* While Japan's foreign trading operations extend to many regions of the world, the bulk of her commerce is nevertheless highly concentrated. Moreover, this concentration has tended to increase as the years have gone by. The diagram on page 256 shows the trade of Japan proper with leading countries in selected years, running back to 1897.

Japan's trade with the United States is of paramount importance. Both in exports and imports the United States ranks far ahead of other countries. Indeed, as much as 35.9 per cent of Japan's total export and import trade is now with the United States. China ranks second with 12.8 per cent, and British India third with 11.1 per cent. The leased Kwantung Province ranks fourth in trade importance.

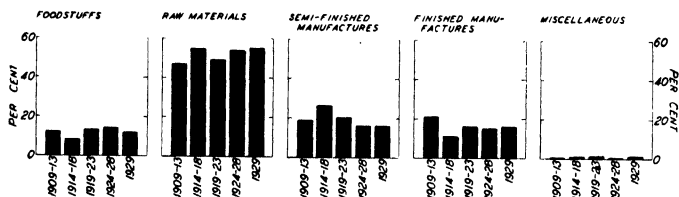
It is also apparent that the trade with the United States, both export and import, has been increasing relatively to the total. The trade with China and British India has likewise increased in relative importance. The trade with Great Britain has shown a marked

decrease in percentage terms, and, if allowance is made for the rise in commodity prices, the aggregate volume of British trade with Japan has declined since 1913. The trade with certain countries will be given further consideration in Chapters XXIV and XXV.

4. *Character of foreign trade.* The character of the country's economic resources is very clearly reflected in the import trade of Japan. Because of the dense population and the limited agricultural area, the country is not self-sufficing in the matter of foodstuffs. Similarly, the relative dearth of natural resources requires the

IMPORTS OF JAPAN PROPER, BY CLASSES OF COMMODITIES,
1909-1929 ^a

(As a percentage of total imports for each period)



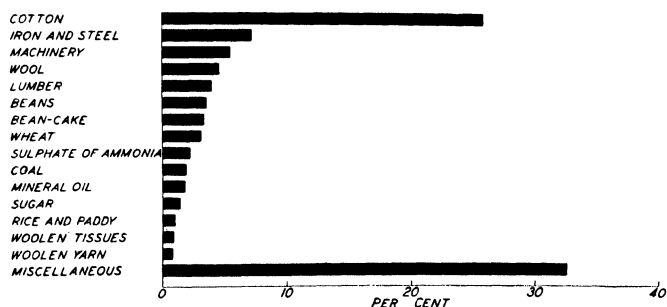
^a See Table 64, p. 596, for annual data.

import of enormous quantities of raw materials and semi-finished manufactures. The imports of finished manufactures are also important. The diagram above shows the relative importance of the various types of imports by five-year periods beginning with 1909-1913.

Raw materials have continuously accounted for approximately half of the total import values. Semi-finished manufactures have run in the neighborhood of 20 per cent of the aggregate imports, with no marked trend in evidence. The imports of foodstuffs have ranged from about 8 to 15 per cent of the total. While the chart would seem to indicate a slight increase in

the percentage since the war period, examination of the annual figures indicates that there are marked fluctuations in the relative importance of food imports, owing to varying crop conditions. Preliminary figures for the year 1930 indicate that food imports will be the lowest ever recorded, in consequence of a phenomenal yield of rice. The imports of finished manufactures decreased in relative importance during the war period, and for the post-war years the percentage has been sub-

IMPORTS OF INDIVIDUAL COMMODITIES OF JAPAN PROPER, 1929 *
(As a percentage of total imports)



* See Table 65, p. 598, for data.

stantially less than during the last five years prior to the war, with a slightly declining tendency in evidence.

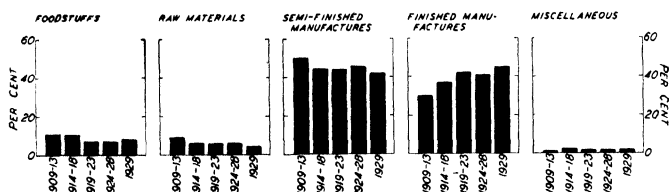
The relative importance of individual commodities imported in the single year 1929 is shown by the diagram above.

Raw cotton is by all odds the most significant import commodity, accounting for more than 25 per cent of the value of all imports. Iron and steel and machinery are next in importance. It is apparent that on the whole the import trade is diverse in character, the miscellaneous group of commodities comprising nearly one-third of the total.

The relative importance of the different groups of exports by five-year intervals beginning in 1909 is shown in the following diagram.

EXPORTS OF JAPAN PROPER, BY CLASSES OF COMMODITIES,
1909-1929 *

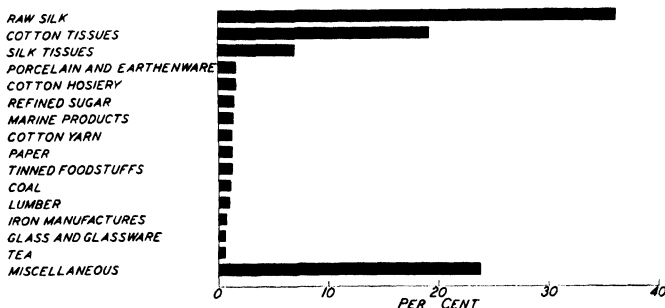
(As a percentage of total imports for each period)



* See Table 64, p. 597, for annual data.

In the case of exports, semi-finished and finished manufactures constitute a very large and an increasing percentage of the total. The exports of finished

EXPORTS OF INDIVIDUAL COMMODITIES OF JAPAN PROPER, 1929 *
(As a percentage of total exports)



* See Table 65, p. 598, for data.

manufactures have shown a relative increase since the pre-war period, while semi-finished manufactures have shown a slight decline in relative importance. The

exports of foodstuffs have declined slightly since pre-war years, but no definite trend is discernible in post-war years. The year 1930 will doubtless constitute an exception because of the extraordinary yield of rice. Exports of raw materials have shown no significant trend.

The relative importance of individual commodities in the export trade for the year 1929 is shown by the diagram on page 260.

Raw silk accounts for well over a third of the total exports, while cotton tissues comprise another 20 per cent. Manufactured silk is the only other important export. Exports are thus more highly concentrated than are imports, these three commodities accounting for nearly two-thirds of the total.

II. THE COLONIES

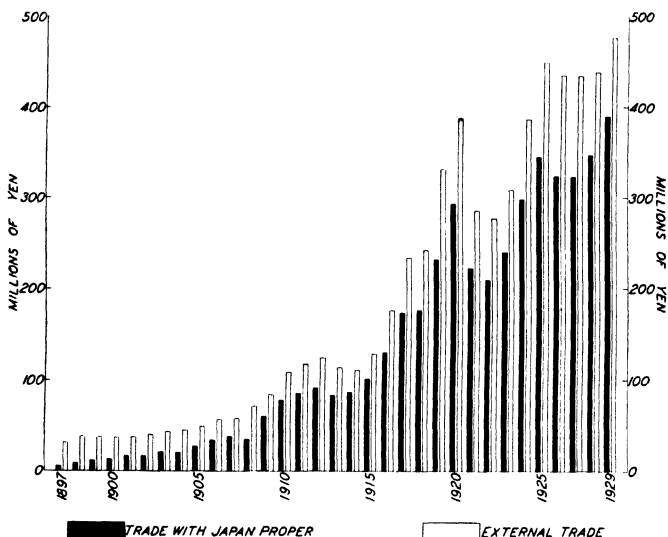
In order to indicate the character of colonial trade and the commercial significance of the Japanese colonies to the mother country, it is necessary first to present data for each colony separately, showing not only the total trade but also the trade of that colony with Japan proper.

1. *Taiwan*. The trade of Taiwan since its annexation in 1896 is shown by a series of diagrams which are based upon figures given in Tables 66-68, pages 599-602. The first diagram shows the growth of the aggregate external trade, with Japan proper and with the world as a whole; the second shows the balance of aggregate external trade; the third shows the geographic distribution of external trade; and the last, the character of the trade with Japan proper. This and the other charts in this section are based on unadjusted figures.

It will be seen that the aggregate foreign trade of Taiwan has shown a great expansion since pre-war

days, and that, except for 1908 and 1909, the fluctuations have corresponded closely with those shown for the trade of Japan proper. It is of interest to note also that the percentage of the trade of Taiwan with Japan proper has shown a remarkable increase—from about 35 per cent in 1900 to approximately 80 per cent in 1929.

GROWTH OF EXTERNAL TRADE OF TAIWAN, 1897-1929 ^a



^a See Table 67, p. 600, for both adjusted and unadjusted data.

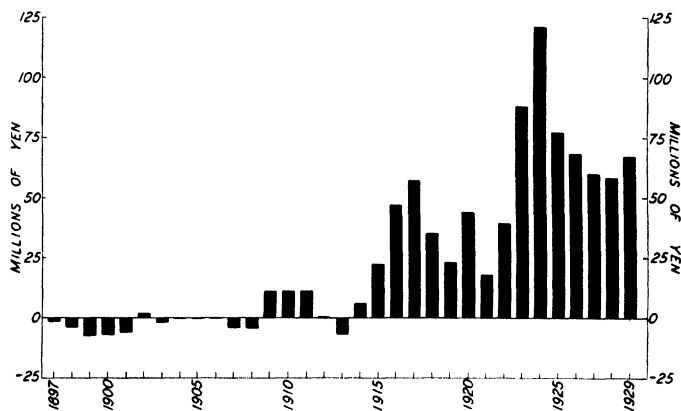
The balance of the aggregate external trade of Taiwan, including that with Japan proper, is shown by the diagram on page 263, based on unadjusted data.

During the first decade of the Japanese possession of Taiwan, imports usually slightly exceeded exports. With the development of the sugar resources of the island, however, exports began to expand, and since 1914 have continuously exceeded imports by substantial amounts.

The diagram on page 264 shows the distribution of the trade of Taiwan, as between Japan proper and the rest of the world, for the year 1929.

In the case of both imports and exports, trade with Japan proper makes up the bulk of the total. In fact, only about 12 per cent of the exports of Taiwan goes to foreign countries. China occupies second place in both the import and export trade. Substantial imports

EXTERNAL TRADE BALANCE OF TAIWAN, 1897-1929 *



* See Table 67, p. 600, for data.

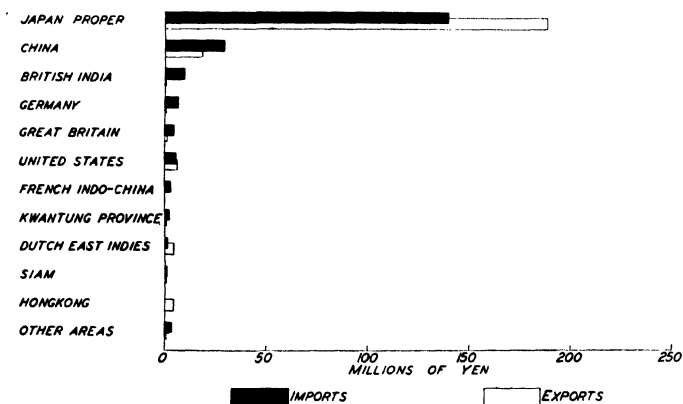
are received from British India and Germany, but exports to these countries are negligible. Neither imports from nor exports to the United States comprise as much as 2 per cent of the total.

The character of both the import and export trade of Taiwan with Japan proper is shown by Table 68, page 602. The most interesting fact about the imports is the wide range of commodities included, the miscellaneous group making up as much as 51.3 per cent of the total. The principal imports are cotton and silk fabrics, amounting to 12.1 per cent; iron and steel

products, 6.5 per cent; dried and salt fish, 4.7 per cent; and lumber, 4.1 per cent. The exports are much more highly concentrated, the miscellaneous group accounting for only 8.8 per cent of the total. Sugar is of primary importance, accounting for approximately three-fifths of the entire exports, while rice and paddy comprise another 20 per cent.

In estimating the commercial significance of Taiwan to the Empire, it is obviously necessary to consider first

GEOGRAPHIC DISTRIBUTION OF EXTERNAL TRADE OF TAIWAN, 1929 *

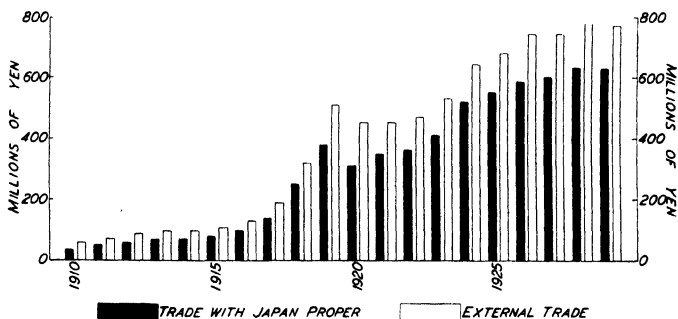


* See Table 66, p. 599, for data.

the trade in sugar and rice, the only export products of importance. An extensive growth of the sugar manufacturing industry, both in Taiwan and Japan proper, has, as we have seen in Chapter VII, been made possible by Japanese enterprise in Taiwan, and this development has obviously afforded no little employment for both Japanese capital and Japanese labor. But in view of the fact that subsidies are contributed to producers and manufacturers and that customs duties have continuously been regarded as necessary for the protec-

tion of the home industry against the competition of foreign, particularly Dutch, sugar, it is not apparent that the Japanese people now obtain this commodity as cheaply as might otherwise be possible. Rice is procured from Taiwan in substantial quantities and perhaps at a somewhat lower price than would have been the case had Taiwan not become a part of the Empire and been able to reap the benefits of the improvements in producing, financing, and marketing methods which the Japanese have fostered.

GROWTH OF EXTERNAL TRADE OF CHosen, 1910-1929 *

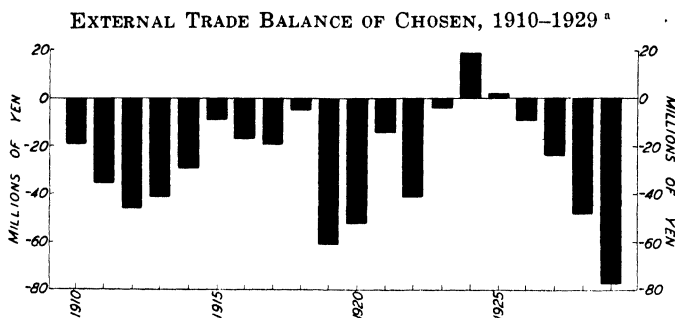


* See Table 69, p. 603, for both adjusted and unadjusted data.

It should also be noted that Japan has found in Taiwan an outlet for a considerable variety and quantity of manufactured commodities. Had sugar and rice production not been promoted in the island by Japanese enterprise, the Taiwanese would not have been able to purchase so many Japanese products, and it is improbable that Japan's total external trade would have been as large as it now is.

2. *Chosen*. It will be convenient in showing the growth, distribution, and character of the foreign trade of Chosen to utilize an identical series of diagrams with that employed in considering Taiwan. The diagrams are shown above and on the following page.

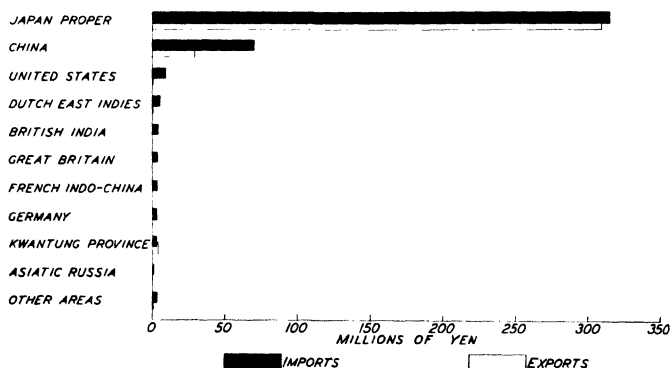
The expansion of the trade of Chosen has corresponded fairly closely with that of Taiwan. The percentage of the total external trade that is conducted



^a See Table 69, p. 603, for data.

with Japan proper has also steadily expanded, and, as in the case of Taiwan, now comprises four-fifths of the total.

GEOGRAPHIC DISTRIBUTION OF EXTERNAL TRADE OF CHOKEN, 1929 ^a



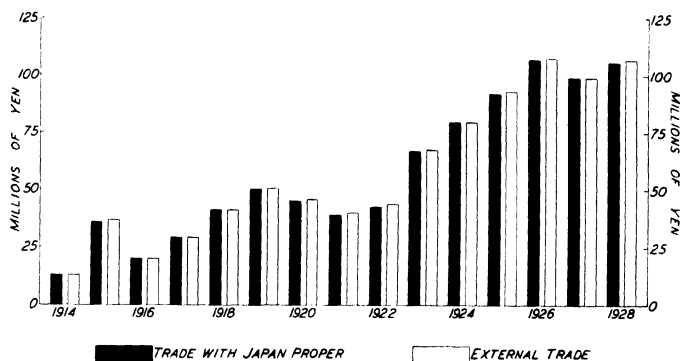
^a See Table 70, p. 604, for data.

The balance of trade of Chosen presents a striking contrast with that of Taiwan. Except for the two years 1924 and 1925, Chosen has had an excess of imports,

usually of substantial proportions. The deficit has been covered by fiscal contributions and capital investments from Japan proper.

In the year 1929, approximately 75 per cent of the import trade was conducted with Japan proper and about 90 per cent of the export trade. Of the trade with foreign countries, much the greater part is with China. Indeed, the exports to Japan proper, China, and Kwantung Province comprise 99.8 per cent of the total export trade of Chosen.

GROWTH OF EXTERNAL TRADE OF KARAFUTO, 1914-1928 ^a

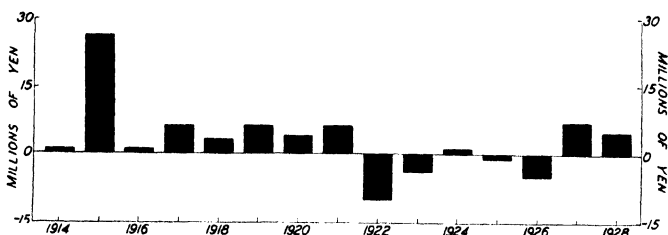


^a See Table 72, p. 606, for adjusted and unadjusted data.

The imports of Chosen from Japan proper are of quite diverse character. As Table 71, page 605, indicates, the miscellaneous group accounts for 45.4 per cent of the total. The largest single items are cotton fabrics, which account for 11.4 per cent; iron and steel, 5.6 per cent; silk fabrics, 4.7 per cent; and machinery, 4.3 per cent. Exports to Japan are somewhat more diversified than are those from Taiwan. Rice and paddy, however, account for 47.9 per cent of the total; soy beans, 7.1 per cent; and raw silk, 6.5 per cent.

3. *Karafuto*. As already indicated, the foreign trade figures of *Karafuto* are included under those of Japan proper. In order to indicate the extent and character of the trade of this island colony, we present at this place two diagrams, one showing both the growth of aggregate external trade and the trade with Japan proper, and the other showing the balance of all external trade. Although *Karafuto* was acquired from Russia in 1906, no satisfactory trade statistics are available prior to 1914.

EXTERNAL TRADE BALANCE OF KARAFUTO, 1914-1928 *



* See Table 72, p. 606, for data.

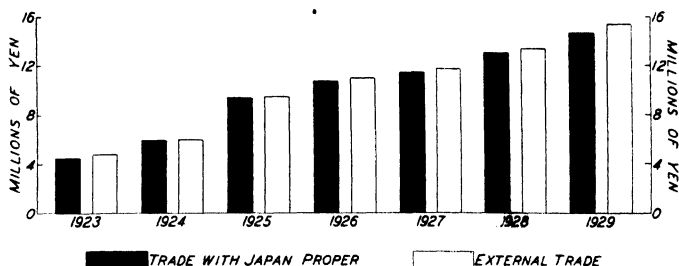
The aggregate external trade has shown a steady growth. From the beginning all but 1 or 2 per cent has been with Japan proper.

The balance of trade has shown no consistent trend. In the war years and up to 1922, exports exceeded imports, while during the next five years imports were as a rule considerably larger than exports. During the last two years, however, exports again exceeded imports. The exports consist chiefly of wood pulp, timber, and fish guano, while the imports are mainly manufactured articles.

4. *Nanyo*. Trade figures for *Nanyo*, or the South Sea Islands, are available for the years 1923 to 1929

inclusive. The significant facts are revealed in the following diagrams:

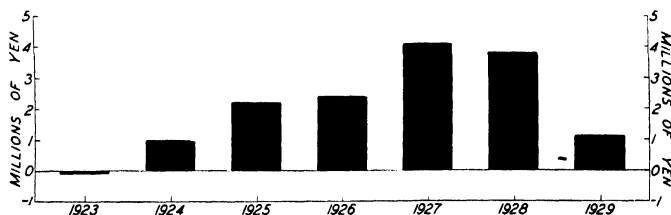
GROWTH OF EXTERNAL TRADE OF NANYO, 1923-1929 *



* See Table 73, p. 607, for data.

Since 1923 there has been a slow, steady expansion of the total external trade. The total volume is, however, very small, and, as in the case of Karafuto, approximately 99 per cent is with Japan proper.

EXTERNAL TRADE BALANCE OF NANYO, 1923-1929 *



* See Table 73, p. 607, for data.

The balance of trade has been continuously favorable since 1923. The chief articles of export are sugar, copra, and phosphate rock, and the principal imports are rice and other foodstuffs and manufactured articles.

5. *The colonies as a whole.* We turn now from a consideration of the trade of each particular colony

to that of the colonies as a group. What is the magnitude of the trade of Japan proper with the rest of the Empire as compared with her trade with foreign countries? Has the exploitation of the colonies as parts of a commercial empire widened the bounds of a trade area within which exchange is relatively unhampered, and thereby proved of great advantage to Japan? The following table shows in percentage terms the relative importance of colonial and foreign trade in the years 1920 and 1928.

RELATIVE IMPORTANCE OF FOREIGN AND COLONIAL TRADE,
JAPAN PROPER, 1920 and 1928
(As percentages of total external trade)

Classification	1920			1928		
	Imports	Exports	Total	Imports	Exports	Total
FOREIGN	86.1	87.5	86.7	78.2	80.3	79.2
COLONIAL	13.9	12.5	13.3	21.8	19.7	20.8
Taiwan	6.7	5.1	5.9	7.7	5.4	6.6
Chosen	6.2	6.4	6.4	11.9	12.1	12.0
Karafuto	0.9	0.9	0.9	2.0	2.0	2.0
Nanyo ^a	0.1	0.1	0.1	0.2	0.2	0.2

^a The figures under 1920 are 1923 data, the first available.

It will be seen that the trade with the colonies as a whole has increased more rapidly in recent years than that with foreign countries, but that even today only about one-fifth of all Japanese trade is with the colonies. The figures show clearly, however, that from a commercial point of view the development of the colonies has been of real significance.

During the comparatively brief period since the abandonment of the policy of national isolation and the opening of the country to commercial relations with

the outside world, Japan's foreign commerce has shown a remarkable growth. Not only has the aggregate trade expanded, but the variety of commodities entering into the total has steadily increased and the geographic distribution of both the import and export trade has been widened so that the commercial relations of Japan now cover the entire world. It remains true, however, that a comparatively small number of commodities occupy a dominant position in the commerce of the Island Empire and that the trade with a few countries, and especially with the United States, is of preponderant importance. Further discussion of these relations and of future trade potentialities will be found in Chapters XXIV and XXV.

CHAPTER XIV

INTERNATIONAL FINANCIAL RELATIONS

Some of the international economic relationships that have developed for Japan since the beginning of the modern era have already been discussed. The international shipping organization was described in Chapter V; the growth and geographic distribution of commodity trade was outlined in Chapter XIII; and the foreign loans negotiated by the national government were discussed in Chapter XII. There remains for consideration the general balance of international economic relations which finds reflection, on the one hand, in the country's public and private indebtedness to foreigners, and, on the other, in its loans and investments abroad. We shall endeavor to reveal the international debt and investment situation at several periods and also to show the causes responsible for the striking shifts from creditor to debtor position which have occurred at different times.

The making of this analysis requires not merely the assembling of such data as are available on international borrowing and lending operations; it involves also a detailed and comprehensive analysis of the so-called balance of trade and "invisible," or service, accounts. The published international loan data do not include direct investments of foreigners in Japanese enterprises or of Japanese citizens in foreign business undertakings; hence, they tell only a part of the story in which we are interested. The amount of these business investments can be gauged only by an appraisal of the net international income and outgo of the nation over a

period of years. When current income from abroad exceeds current international payments, the nation is in a position to make loans to foreigners or investments in foreign enterprises; when the current outgo exceeds the income, the flow of capital must perforce be in the other direction.

The analysis is greatly complicated by the fact that in any given year some people in country X are likely to be investing in foreign countries, while other individuals, corporations, or government agencies are borrowing abroad. We must, therefore, ascertain the amount of both debts and investments. The computations and explanations involved in obtaining the figures used in this chapter are so extensive and so technical in character that they have all been relegated to a special appendix (A). It should be stated here, however, that we have been able to work out for Japan an exceptionally complete and accurate story of the international investment and debt position over a period of years.

We shall consider first the trend of international debts and investments from 1868 to the end of the year 1929, revealing the striking shifts that have occurred at various periods. Second, we shall show the growth of Japan's foreign indebtedness by types of borrowing operations, indicating the purposes for which the various classes of loans have been contracted. Third, we shall discuss the country's loans and investments abroad. Finally, we shall consider the movements of specie and the phenomenon of the huge bank balances which were held abroad for many years.

I. THE BALANCE OF INTERNATIONAL INDEBTEDNESS, 1868-1929

The history of Japan since the beginning of the modern era may, from the point of view of foreign

debts and investments, be divided into several periods. There was first a short interval ending in 1873, during which two substantial government loans were floated abroad for purposes of internal development. During the next 24 years these loans were gradually liquidated, and no new foreign obligations were contracted. Some small private investments, however, were made in Japan and there were also a few minor investments by the Japanese in foreign enterprises. At the end of the first 30 years of the modern period, therefore, Japan was neither a debtor nor a creditor country to any appreciable extent. The history of extensive international credit relations begins after 1896.

INTERNATIONAL DEBT AND INVESTMENT POSITION FOR
SELECTED YEARS

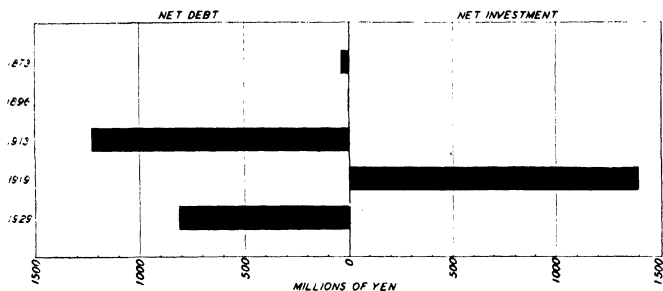
(In thousands of yen)

Year Ending December 31	Indebtedness to Foreigners	Investments Abroad	Net Position (+ investment) (- debt)
1873.....	32,208	—	— 32,208
1896.....	467	—	— 467
1913.....	2,069,684	846,175	— 1,223,509
1919.....	1,821,971	3,220,694	+ 1,398,723
1929.....	2,503,791	1,693,526	— 810,215

From 1897 to the World War period, Japan borrowed very heavily abroad, the bulk of the loans, as we shall see in the following section, being contracted by the national government. There was also some increase in direct investments by foreigners in Japanese enterprises. During this period, on the other hand, there was a considerable increase in Japanese investments abroad, particularly in Manchuria, following the Russo-Japanese War. At the end of 1913, however, Japan was, on balance, a substantial debtor.

The war period, which should be extended to include the hang-over year 1919, played into Japan's hands in a remarkable way, transforming her position from that of a substantial debtor to a substantial creditor. During the post-war period, however, the situation was once more reversed, and by the end of 1929 Japan had again become, on balance, a substantial debtor.

CHANGES IN INTERNATIONAL FINANCIAL POSITION



The changes which have occurred over the entire period are shown in the table on page 274 and in the diagram above. It will be seen that the results of the post-war years placed Japan, at the end of 1929, in approximately the same position in which she stood in 1913.

The explanation of the great shifts that have occurred is to be found in the fluctuations of the net income derived from foreign trade and service operations. Between 1897 and 1913, for example, the international trade showed a continuously heavy adverse balance,¹ while after the Russo-Japanese War interest payments also became important. There were also minor obligations on account of insurance and for expenditures of Japanese ships in foreign ports. The expanding income

¹ See Chap. XIII, p. 593.

from Japanese shipping, remittances of Japanese citizens abroad, profits from enterprises abroad, interest on specie balances in foreign banks, and receipts from foreign residents and tourists fell far short of the requirements. The detailed figures are shown in Appendix A.

During the World War period, on the other hand, the trade movement became heavily favorable, and the earnings from insurance and shipping, particularly the latter, expanded enormously. From the large excess of current income over current outgo, it was possible to liquidate some of the foreign indebtedness, to accumulate large specie balances in foreign banks, and also to make substantial loans and investments abroad.

From 1919 to 1928, the balance was again continuously adverse, owing chiefly to the large excess of imports. The receipts from shipping were very much reduced as compared with the war period, and interest and dividend payments again expanded. In 1929 there was, however, only a small trade deficit and the balance from all current operations was favorable for the first time in a decade. The prospects for the future will be discussed in Chapter XXI.

In order to give some idea of the great variety of operations and transactions which give rise to international income and outgo under modern conditions, as well as to show the precise situation at the latest possible date, we present herewith data showing the main sources of income and of outgo for the year 1929. In order to appreciate fully the wide range of operations which in the modern world gives rise to annual payments abroad or receipts from abroad, the reader should glance through the detailed tables on pages 528-33 of Appendix A.

In 1929 Japan received income from abroad from the following sources and in the amounts indicated:

	Thousands of Yen
Exports of commodities	2,148,618
Exports of specie	3,490
Interest and dividends on foreign securities	18,878
Net profits of business enterprises abroad	80,634
Remittances of Japanese residents abroad	52,620
Ships and shipping receipts	238,534
Insurance receipts	119,988
Foreigners' expenditures in Japan	57,983
Government receipts from abroad	13,208
Miscellaneous accounts	18,320
Total income	2,752,273

The income thus received was employed in meeting payments in connection with the following:

	Thousands of Yen
Imports of commodities	2,216,240
Imports of specie	859
Interest and dividends on Japanese securities	102,868
Net profits on foreign investments in Japan	10,261
Remittances abroad	3,965
Expenses of Japanese ships and shipping companies .	79,359
Insurance payments	114,839
Tourist and other Japanese expenditures abroad	42,718
Japanese government expenditures (other than interest)	58,024
Miscellaneous accounts	7,177
Total outgo	2,636,310

In this particular year income exceeded outgo to the extent of 115,963,000 yen. This balance was available either for the making of new investments abroad or for the liquidation of existing foreign obligations.

Among the sources of income other than trade operations, the receipts of Japanese shipping companies and the expenditures of foreign ships in Japanese ports are much the largest, with insurance and profits from

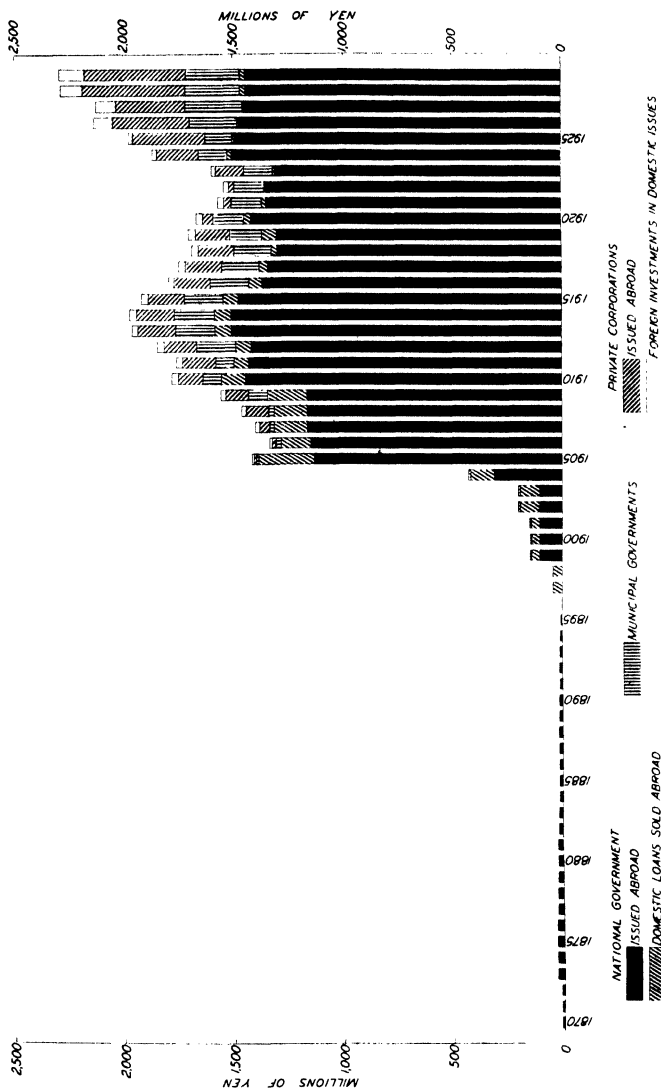
Japanese enterprises abroad next in importance. The receipts of Japanese insurance companies are, however, almost balanced by payments of Japan to foreign insurance companies. On the outgo side, the most important items, other than insurance payments, are interest and dividends on Japanese securities owned abroad, expenses of Japanese ships and shipping companies in foreign ports, and expenses of the Japanese government other than for interest on government loans. These government expenditures consist chiefly of diplomatic, military, and naval outlays, the purchase of fuel by the navy constituting a particularly large item.

II. JAPAN'S FOREIGN BORROWINGS

The foreign borrowings of the Japanese people include several classes of credit obligations: (1) loans of the national government floated abroad; (2) municipal loans floated abroad; and (3) private corporation bonds and debentures floated abroad. In addition to these loans actually floated abroad, a considerable volume of national government and private corporation bonds floated at home has been purchased by foreigners. We have precise figures for the issues actually floated abroad and good estimates for the volume of domestic issues purchased by foreigners. The diagram on page 279 shows the amount of indebtedness to foreigners under each of these categories outstanding at the end of each year from 1870 to 1929 inclusive.

It will be observed that the foreign debt of the national government was virtually eliminated in 1896, that it expanded enormously during the Russo-Japanese War, and grew slowly in the later years before the World War. The reduction during the World War period was only moderate, not because resources were not

FOREIGN INDEBTEDNESS OUTSTANDING, 1870-1929 *



* See Appendix A, pp. 494-95, for data.

available for debt reduction, but because the budget surpluses were used for other purposes, chiefly in making loans to the allied governments and in building up specie balances in foreign banks (see discussion below). The foreign indebtedness increased again somewhat in 1920 and then showed a substantial bulge after the earthquake of September, 1923. During the last six years it has remained practically stationary.²

Municipal borrowing began in 1899 when the city of Kobe floated in London a loan of £25,600 for the development of water-works. The other large cities of Japan—Tokyo, Osaka, Nagoya, Kyoto, and Yokohama—have also floated foreign loans for public utility developments. The total amount outstanding increased gradually and has remained fairly stationary since 1912. The amount at the end of 1929 was about one-sixth that of the national government bonds held abroad.³

The borrowings of private corporations consist chiefly of the loans floated by banking, railway, and electric power companies. The date of the flotation of the first private securities was 1906. The amount outstanding increased gradually up to 166,884,000 yen in 1913. The bulk of these loans was paid off between 1920 and 1922, but the amount outstanding increased rapidly again from 1923 on. The loans floated in recent years have been chiefly by the large electric light companies, which, as we saw in Chapter VI, have undergone rapid development since 1920.⁴

² For a table showing all national government loans floated abroad, including those of May, 1930 and June, 1931, with prices of issue, see Appendix A, p. 488.

³ For the complete list of these issues, see Appendix A, p. 490.

⁴ For a full list of these private corporation borrowings, see Appendix A, p. 492.

III. FOREIGN LOANS AND INVESTMENTS MADE BY JAPAN

Prior to 1898, the Japanese people had made no appreciable loans or investments abroad. A survey based on consular reports⁵ showed that the only Japanese investment in Chinese industry in 1897 was in a small cotton gin located in Shanghai, which was owned jointly with Chinese. There were a few small branches of Japanese banks in China, and a small amount of shipping on Chinese inland waterways, while a few persons were reported as being engaged in mercantile pursuits in Tientsin and Shanghai.

By 1913, Japanese loans and investments abroad had become of some significance. The government received, without direct outlay, an investment of 100,000,000 yen in the South Manchuria Railway Company. Substantial loans and investments had been made in China and Manchuria, and there were some investments in the South Sea Islands, Hawaii, the United States, and Latin America. The only loans to China made during this period were three railway loans and the "Reorganization Gold Loan" of 1913, in which Japan participated with other countries to the extent of 50,000,000 yen. (See the table in Appendix A, page 534.) We estimate the total of foreign loans and investments at the end of 1913 at approximately 600,000,000 yen, of which about 65,000,000 yen was in the form of loans and the balance in direct investments. About 50,000,000 yen was located in Hawaii and the United States and Latin America, a like amount in the Philippines and other South Sea Islands, and the balance in Manchuria and China. At this place, mention should also be made of the expansion of foreign bank balances to the extent of 246,175,000 yen (see discussion, section IV).

⁵ See Appendix A, p. 499.

The period of the World War marked the beginning of Japanese loans and investments abroad on a large scale. From 1915 to 1919 inclusive loans and investments were made in foreign countries to the extent of approximately 1,442,000,000 yen, and, in addition, specie holdings abroad were increased by 1,096,000,000 yen. The classified loans and the direct investments made during this period are shown below.

JAPANESE FOREIGN INVESTMENTS MADE FROM 1915 TO 1919

Government loans: ^a	Thousands of Yen
To Great Britain	283,430
To France	133,160
To Russia	240,053
	<hr/>
	656,643
Private loans to China: ^b	
To central government and agencies	174,975
To provincial governments	60,000
To private enterprises	150,000
	<hr/>
	384,975
Direct investments (estimated) ^c	400,000
	<hr/>
Total loans and investments	1,441,618

^a For details, see Appendix A, p. 514.

^b For table showing all loans made to China, see Appendix A, p. 534.

^c For basis of estimate, see Appendix A, pp. 510-16.

The loans to allied governments took the form of the purchase of exchequer bonds in the case of France, exchequer bonds and treasury bills in the case of Great Britain, and treasury bills in the case of Russia. All of these obligations were thus of relatively short duration. The British loans were, in fact, entirely liquidated by 1922, and the French loans by the end of 1924 (see Appendix A, page 514). No payments, however, have been made on any of the Russian obligations. The first of them were renewed once or twice, but since October, 1917, no renewals have been made and the entire indebtedness is regarded as permanently in default.

The war-time loans to China may be regarded as a venture in imperialism. While they were not made by the Japanese government directly, most of them were made with the backing of the government and with political objects in view. This was particularly the case with the so-called "Nishihara" loans, so designated after the official who was chiefly interested in their promotion. A full list of these loans, showing the date contracted, the maturity date, the amount of the loan, the amount outstanding at the end of 1925, the interest arrears, the date since which the loans have been overdue, and the creditor company, is given in Appendix A, page 534. The wide variety of purposes for which the loans were made is indicated by the titles given them, some of which are shown below.

	Thousands of Yen
5% Ssuningkai-Changchun Railway loan	5,000
5% Kirin-Changchun Railway loan	5,500
10% loan for military equipment purchased by the Minister of War (1915)	1,935
10% treasury loans for military expenses, provi- sional government of Nanking (1915)....	2,000
7% first arms loan (1917)	18,716
7% second arms loan (1918)	13,365
10% Bureau of Printing and Engraving Company loan (1918)	2,000
9% telegraph loan (1918)	20,000
7% war participation loan (1918)	20,000
7½% advance for construction of Kirin-Huening Railway (1918)	10,000
7½% gold mines and forests loan of Kirin and Hei- lungkiang (1918)	30,000
8% advance for construction of four railways in Manchuria and Mongolia (1918)	20,000
8% advance for construction of Chi-Shun Kao- Hsu railways (1918)	20,000
8% Shensi Copper Mint loan (1920)	3,000

Of all the Chinese loans made during this period, only the first two, amounting to 10,500,000 yen, may

properly be classed as loans that are adequately secured by special pledges of revenues. Very few of the others have been reduced as to principal and the interest has been in arrears for many years. In the light of this history, it is not surprising that Junnosuke Inouye, now finance minister, wrote in 1926:

These investments with the central and provincial governments of China—investments running to several hundred million yen—resulted in a dead loss, and today Japan can recover neither the capital which she thus locked up nor one penny of interest on it. To put the matter in a nutshell, I would say that foreign investment was not practised by this country, and that such trifling investments as were effected might just as well have been thrown into the sea.*

As a result of the repayment of the war-time loans of France and Great Britain, the permanent default of the Russian loans, and the bad loans to China which may be put at about 270,000,000 yen, Japan's foreign loan and investment position at the end of 1929 is very different from what it was in 1919. The amount outstanding at the end of each year (in thousands of yen) was as follows:

	1919	1929
Loans to allied governments ..	557,000	—
Loans to China (central and provincial governments)	235,595	93,526 (secured)
Other loans and investments ..	1,085,000	1,600,000
Specie holdings abroad	1,343,099	—
Total	3,220,694	1,693,526

The private loans and investments are chiefly in Manchuria and China, the investments in—and through—the South Manchurian Railway alone amounting to approximately half the total. The others are in the South Pacific area, Hawaii, and the United States. An

* *Problems of the Japanese Exchange, 1914–1926.*

estimate for 1924 credits 108,896,000 yen to plantations in the Malay Peninsula and the East Indies; 3,684,000 yen to Philippine plantations; and 21,375,000 yen to other undertakings.⁷ Investments in Hawaii, the United States, and Latin America, by native Japanese citizens, probably do not exceed 50,000,000 yen.

Investments in transportation enterprises occupy first place in importance, with manufacturing second, mining third, and commercial undertakings fourth. For discussion of these investments, see Appendix A, page 526.

A brief statement should be made at this place with reference to the indemnities that Japan has received. The first was the Chinese indemnity of 1897, which amounted to 38,082,886 pounds, equivalent to approximately 360,000,000 yen.⁸ The second was the Boxer indemnity of 1898, of which Japan's share was 7 per cent, equivalent to 48,950,892 yen. Interest and amortization payments were begun in 1902 and were regularly made until December 1, 1917. By an act of 1923, Japan agreed, in common with other countries, to devote the proceeds of the Boxer indemnity (and also of the indemnities next mentioned) to "cultural works in China," and the receipts are entered in a special account for this purpose.

The third and fourth indemnities arose out of World War financial adjustments. As compensation for claims in connection with former German properties in China taken over during the war, Japan received Chinese treasury notes of 40,000,000 yen for the Tsingtao-Tsinanfu Railway and similar notes for compensation of Tsingtao-Tsinanfu public property and the salt industry, amounting to 14,000,000 yen. No interest has been paid since 1924.

⁷ *Ibid.*

⁸ For details, see Appendix A, p. 523.

The acquisition of the lease of Kwantung Province as a result of the Russo-Japanese War gave Japan control of the South Manchuria Railway zone. When the railway company was reorganized the Japanese government received stock valued at 100,000,000 yen. While this is not precisely an indemnity, it represents an asset that was obtained without direct outlay. Under the terms of the Treaty of Portsmouth, Russia and Japan agreed to reimburse each other for expenses in maintaining prisoners of war, and Japan received on this account the net sum of 47,450,000 yen.

Finally, Japan shares in the German reparation settlement. Under the terms of the Young plan settlement she receives 0.663 per cent of the expected reparation payments due under the scheduled 37 annuities. The total share is 488,400,000 marks, equivalent to approximately 208,551,000 yen. The average annual annuity is about 6,296,000 yen.

IV. THE ACCUMULATION OF SPECIE BALANCES ABROAD

Mention has already been made of the accumulation of large holdings of specie abroad, particularly during the period of the World War, and these sums have in fact been included in the amount of foreign investments at the several periods discussed. The story of these large balances in foreign banks is not only engaging in itself but it sheds an interesting light on the problems of international exchange during periods of maladjustment.

The practice of maintaining substantial deposits in foreign banks began at the time of the receipt of the Chinese indemnity. The indemnity was paid in London; and the British government, which did not favor the export of the entire amount at one time, suggested that 50,000,000 yen of the 360,000,000 due be deposited

in the Bank of England. The proposal was agreeable to Japan, inasmuch as the country had an adverse balance of payments, and it was convenient to have funds on deposit in London with which to meet foreign obligations and to maintain the stability of the exchange. The keeping of this gold in London did not mean that it could not be counted as a part of the specie reserve of the Bank of Japan for it was, of course, withdrawable on demand.

As we have seen, the international income from trade and service operations during the 15 years preceding the World War was continuously less than the current international outgo. Hence the maintenance of exchange stability was a matter of more or less constant concern, and particularly so during the period of the Russo-Japanese War. The specie holdings abroad were built up during these years, by means of borrowing operations, to substantial proportions, the amount at the end of 1905 being as high as 442,000,000 yen. At the end of 1913 the amount was 246,176,000 yen. This specie was owned in part by the government and in part by the Bank of Japan.⁹ It was held on deposit mainly in commercial banks in London and yielded a low rate of interest.

During the period of the World War, particularly after 1915, these foreign deposits were rapidly expanded until, at the end of 1919, the amount outstanding was 1,343,100,000 yen. The explanation of this phenomenon is as follows: The export trade and other sources of international income — after a brief interval in the early months of the war when Japan's trade and financial relations were so demoralized as to threaten bankruptcy — began to yield a considerably larger volume

⁹ For detailed annual figures, see Appendix A, p. 539.

of foreign exchange than was needed for covering imports and other obligations. The surplus due Japan would, under ordinary circumstances, have been imported in the form of gold. But the laying of embargoes on gold shipments during the latter war years made this means of settlement impossible. Accordingly, the excess of foreign exchange resulting from the export surplus accumulated in foreign banks. Since practically all of the exchange business was handled by the Yokohama Specie Bank¹⁰ this institution found itself in possession of huge foreign balances, which were unavailable for financing the subsequent instalments of export trade. In order to meet current financial requirements, therefore, the Yokohama Specie Bank, and other exchange institutions, were obliged to borrow from the Bank of Japan sums equivalent to their holdings abroad. The incurring of these huge obligations would perhaps not have given rise to so much concern had not the exchange banks had to pay about 7 per cent on their loans from the Bank of Japan, whereas they received on their foreign balances only 3 or 4 per cent. Moreover, the value of their foreign holdings declined as the pound sterling depreciated.¹¹

A portion of the balances abroad was purchased by the Japanese government in order to have funds available, not only for meeting current foreign payments but also for the future redemption of 4.5 per cent sterling loan bonds which were to fall due in 1925. At the time it seemed to many a far-sighted policy to make provision long in advance for the meeting of these obligations, which aggregated nearly 600,000,000 yen. The funds with which to purchase these foreign specie balances were derived from the current budget surplus of

¹⁰ See discussion, p. 164.

¹¹ The rates on such deposits advanced sharply during the war period.

the war period.¹² By 1919 the government had acquired as much as 1,050,000,000 yen of foreign currency.

The Bank of Japan also came to hold substantial sums abroad as a result of its participation in the financing of Japanese trade in such markets as India, southern Pacific islands, South Africa, and South America. The process was as follows: The bank furnished working capital to Japanese traders who were exporting to these markets, and the exporters were required to make payment in Europe or America by making deposits to the credit of the Bank of Japan.

Since 1919 these foreign holdings of specie have almost entirely disappeared. They have been used in substantial part in meeting payments abroad arising from the deficiency of international income—though approximately 230,000,000 yen was transferred to Japan, where it served to increase the gold reserve of the country.

The surplus revenues which accrued during the war period might have been used much more advantageously than in the building up of foreign balances. It would have been better, for example, to buy up large quantities of Japanese external loans, thereby saving interest charges; or to purchase approved foreign securities, both public and private. In fact, only 90,000,000 yen of Japanese foreign loans was redeemed; and the purchase of foreign securities, aside from the exchequer bonds and treasury bills of the allied governments already referred to, was negligible.

The explanation of the policy that was pursued is chiefly the inexperience of the Japanese people at this time in the realm of international finance and the lack of private investment financing machinery with which to make such investments. In the words of Mr.

¹² See Chap. XI, p. 208.

Junnosuke Inouye, who during these years was president of the Yokohama Specie Bank,

The Japan of the war period in fact resembled an impecunious family which had never known what it was to taste of life's good things. Then came a day when an unexpected legacy put it in possession of a cellar of noble vintages. For many arid years this family had savoured naught but the chilly brew of excess imports, but now it was called on to dispense the heady wine of excess exports. It flowed in abundant measure, but there was no one who knew how to serve it properly—old brandy was served in tumblers, claret in liqueur glasses—and in the house all was confusion.¹³

The foreign balances, as we have seen, were all held by the government, the Bank of Japan, or the exchange banks; there were no institutions interested in selling foreign securities to the Japanese people, and the Japanese people were not foreign-security-minded. The building up of these balances by the government with an eye to the meeting of future obligations thus appeared to be the part of wisdom. The only foreign investments in securities of any significance, apart from the loans to the allies, were the ill-fated loans to China, to which reference has been made in the preceding section.

V. FOREIGN EXCHANGE FLUCTUATIONS

By way of rounding out this discussion a brief statement should be made about the Japanese exchange problem. During the years prior to 1897, Japan's foreign exchange gave rise to no difficulties, the income from international trade and services being ample to meet all foreign obligations. But during the succeeding 15 years the maintenance of exchange stability presented an almost continuous problem. This was true not only during the period of the Russo-Japanese War;

¹³ *Problems of the Japanese Exchange, 1914-1926.*

Japan was continuously hard pressed to obtain the means of meeting current foreign obligations. The stability of the exchange was maintained by borrowing operations, and not as the classical theory of international exchange would assume, by the movement of specie in and out of the country¹⁴ and by consequent price readjustments—for the specie movements bear no relationship to the balance of international accounts.

Since 1913 Japanese exchange has undergone considerable fluctuation. At no time, however, has there been any complete demoralization such as European countries experienced. The monthly quotations of Japanese exchange on New York from 1913 to 1930 are shown by the diagram on page 292.

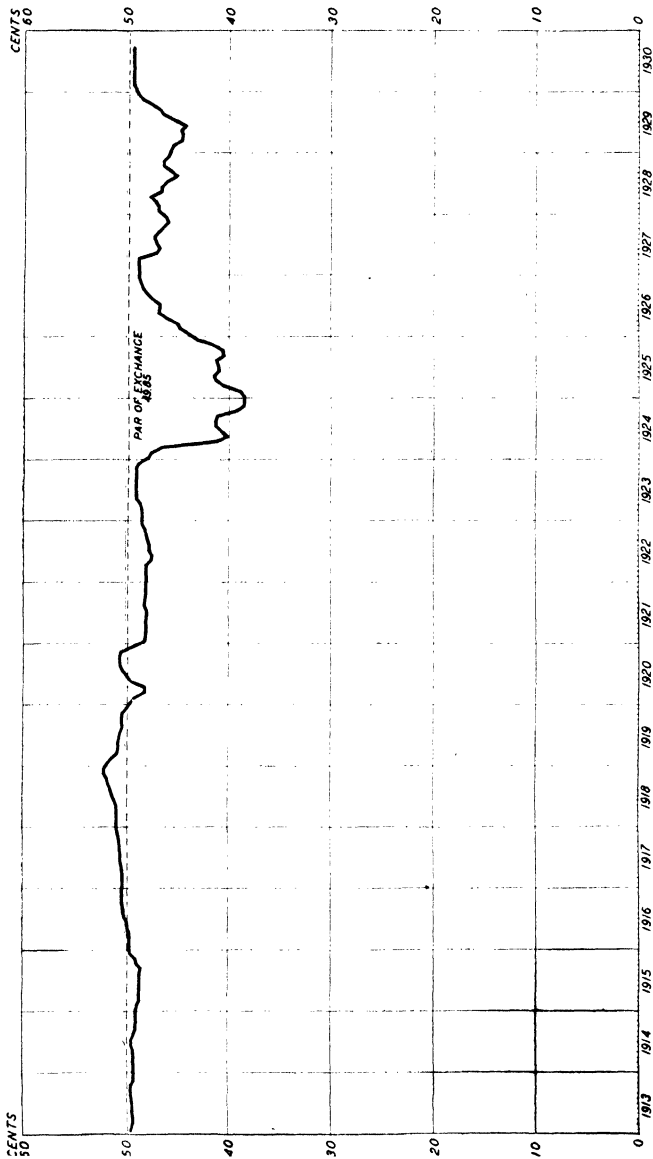
During the World War period Japan, in common with other countries, established an embargo on gold movements; hence there was no opportunity for specie to flow in response to natural economic requirements. During the later war years Japan's exchange was well above par, as a result of the heavily favorable balance and the inability to import gold. Japan's embargo on gold exports was established in 1917, but it was of no moment so long as current international income from every direction exceeded the outgo.

After the tide turned in 1920 and heavy adverse balances again developed, the exchange problem became acute. The yen dropped well below par during the financial crisis of the spring of 1920, but recovered in the latter part of the year. From December, 1920, to the end of the year 1929, the yen was continuously below par, sinking to a low of 38.5 in the post-earthquake period of 1924-1925.

In consequence of the difficulties occasioned by the earthquake, and later because of a widespread belief

¹⁴ For annual international specie movements, 1870-1929, see Appendix A, p. 538.

EXCHANGE RATES ON NEW YORK, 1913-1930



that a depreciated exchange was an economic advantage to the country, Japan did not remove the gold embargo and restore the free movement of the international exchanges until the end of 1929. Although the extent of exchange demoralization was very much less than that of any of the European belligerents in the World War, Japan lagged well behind in the restoration of the gold standard. The controversy with reference to the stabilization of the exchanges eventually became one of great political importance, and the question is still vigorously debated. The economic issues involved will be discussed in Chapter XXI.

CHAPTER XV

THE GROWTH OF NATIONAL WEALTH AND INCOME

The improved utilization of agricultural and other natural resources, and the extensive development of financial, commercial, and manufacturing enterprises during the last 40 years, as outlined in preceding chapters, have obviously resulted in a very substantial increase in the national wealth and income of Japan. While there are no data with which to show the growth that has occurred from the beginning to the end of the epoch which we have been considering, it is possible to indicate with some degree of accuracy the general growth since 1905. The available figures are presented in this chapter not only in aggregate terms but also in relation to the growth of population.

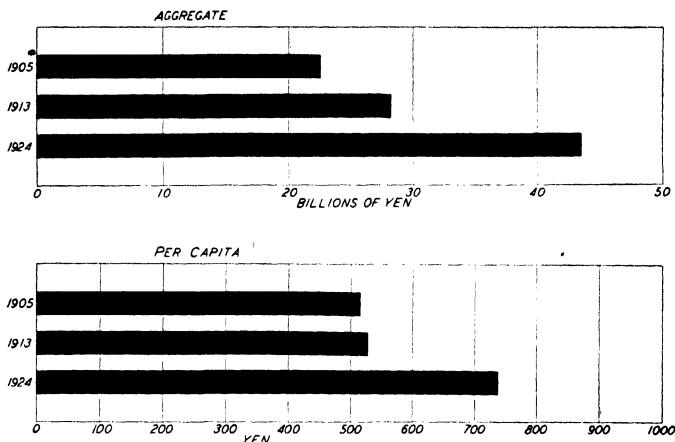
Official estimates of the wealth of Japan proper have been made for various periods. The Bank of Japan has made estimates for the years 1905, 1910, and 1917; the (former) Board of National Resources for 1913 and 1919; and the central Bureau of Statistics for the end of the year 1924. The latter estimates are comprehensive in character and compare favorably in quality with those that have been made in other countries.¹

The figures for the various years are expressed in terms of the yen values of those particular years. Since the price level has fluctuated widely since 1905, if we are to obtain a correct picture of the growth of national wealth it is necessary to adjust the value

¹ See the estimate of the national wealth and income of Japan proper presented at the Nineteenth Session of the International Statistical Institute, Tokyo, 1930, by K. Mori, chief statistician of the Bureau of Statistics in the Imperial Cabinet.

figures by an index number of prices. While the index number of wholesale prices in Tokyo is not sufficiently comprehensive to measure accurately the change in the value of all wealth, it nevertheless serves to give a reasonably comparable set of figures, except for the war years, when price fluctuations were of an extreme character. In the following diagram we show, by means of adjusted data, the increase in the aggregate

GROWTH OF AGGREGATE AND PER CAPITA WEALTH, 1905-1924^a



^a The actual value figures are given in Table 74, p. 608.

wealth of Japan and also in the wealth per capita from 1905 to 1924.

The rate of increase in wealth was comparatively slow from 1905 to 1913—the aggregate wealth expanding approximately 24.9 per cent and the per capita 2.7 per cent. Between 1913 and 1924 the increase in the aggregate wealth was 54.6 per cent, and in the per capita wealth 39.8 per cent.

We have checked these estimates for the years 1913 and 1924 with the production data compiled in earlier

chapters, and find that the trends there indicated coincide closely with those shown by the adjusted figures

ESTIMATED NATIONAL WEALTH OF JAPAN PROPER, 1924^a
Classified by Form of Wealth and Ownership
(In thousands of yen)

Form of Wealth	Total	State and Public Properties	Private Property
Lands.....	33,247,340	—	33,247,340
Mines.....	3,523,230	—	3,523,230
Waters and harbors.....	5,158,600	5,158,600	—
Timber trees.....	1,747,670	525,600	1,222,070
Buildings.....	16,326,150	389,620	15,936,530
Furniture and household goods.....	9,683,360	194,810	9,488,550
Manufacturing machinery and implements.....	1,987,200	—	1,987,200
Livestock.....	526,010	7,900	518,110
Railways and tramways....	3,544,210	835,370 ^b	2,708,840
Vehicles.....	428,590	—	428,590
Shipping.....	320,490	—	320,490
Water works.....	283,350	274,290	9,060
Bridges.....	373,820	373,820	—
Agricultural products.....	3,310,420	29,840	3,280,580
Forest products.....	94,640	2,830	91,810
Manufactured products.....	2,311,160	61,440	2,249,720
Mining products.....	73,470	—	73,470
Aquatic products.....	46,310	9,580	36,730
Imported merchandise.....	501,800	—	501,800
Coins and gold and silver bullions.....	1,823,820	411,000	1,412,820
Property of departments of government.....	6,483,880	6,483,880	—
Other property.....	10,258,270	2,554,570	7,703,700
Excess of credit over debt abroad.....	287,810	-1,297,430	1,585,240
Total.....	102,341,600	16,015,720	86,325,880

^a Mori, K., *Estimate of the National Wealth and Income of Japan Proper*, XIX^o Session De L'Institut International de Statistique, Tokyo, 1930.

^b The greater part of government railway properties is evidently under "property of departments of government."

in Table 74 on page 608. The production data given in the preceding chapters indicate that the total

wealth continued to increase slowly from 1924 to 1929.

The various classes or forms of wealth which make up the total estimated wealth for 1924 are shown by the table on page 296, which also gives the distribution as between public and private ownership. (See also page 609.) The total wealth in 1924 amounted to 1,731 yen per capita, or 8,651 yen for a household. In terms of ownership, state and public property account for approximately 15 per cent of the whole.

The national income of Japan proper, for the year 1925, has also been computed by the Bureau of Statistics.² The estimate amounts to 224 yen per capita, or 1,124 per household. The total income is classified as follows:

	Thousands of Yen
Private income:	
Taxed	5,104,221
Untaxed	7,852,717
State and public income:	
From state undertakings and properties.....	355,014
Received by public bodies.....	70,371
Total	13,382,323

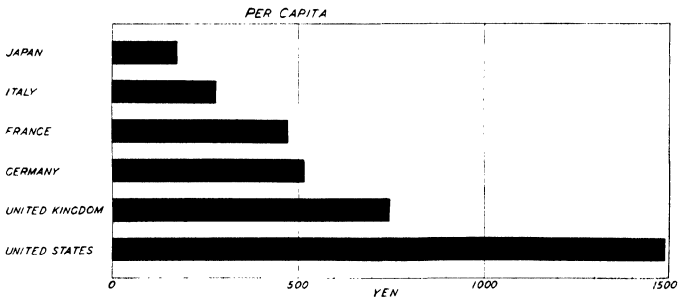
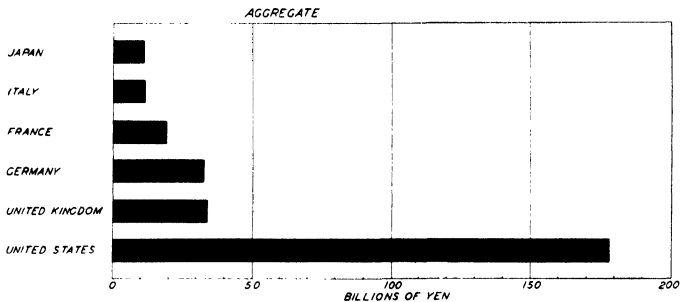
Among the sources of state and public income, the most important are the profits of monopolies and of state railways and the receipts from electric utilities. Of the total private income, 555,392,000 yen was interest on corporate bonds, debentures, etc.; 320,554,000 yen corporate surpluses; 190,349,000 yen dividends; and 119,317,000 yen interest on government bonds and postal savings accounts. The income of individuals derived from other sources, principally wages and salaries, aggregated 10,415,302,000 yen, or 80 per cent of the total. The classification in full is shown in Table 76, page 612.

In order to give significance to the figures of national income of any country, it is necessary to make

²*Ibid.*

comparisons with other countries. In the following diagram we accordingly show the aggregate and the per capita income of a number of important countries for the year 1928. Since the latest estimate of national

NATIONAL INCOME OF SELECTED COUNTRIES, 1928^a



^a For data, see Table 77, p. 614.

income for Japan is for 1925, it is necessary, for purposes of this comparison, for us to estimate the changes in the income of Japan between 1925 and 1928. The production figures assembled in preceding chapters indicate that agricultural output was practically stationary, that mineral production increased

somewhat, and that manufacturing expanded materially. We estimate that the annual income, as measured by quantity production, must have increased by from 3 to 5 per cent. But since the general level of prices during these years fell by approximately 12 per cent, the national income as measured in value figures would appear to have declined by something like 8 per cent.

In terms of aggregate national income, Japan compares favorably with Italy and France, but by virtue of the much denser population in Japan the per capita income is very much lower. It is only about 63 per cent that of Italy, about 38 per cent that of France, one-third that of Germany, and less than one-fourth that of Great Britain.

If one were to appraise the economic development of Japan since the Revolution of 1868 solely on the basis of the data presented in Part II of this study the conclusion would inevitably be relatively optimistic. The opening up of the country to foreign trade and the adaptation to Japanese requirements of occidental institutions and methods has resulted in a doubling of the population during a period of 60 years and a more than proportional increase in national wealth and income. This favorable production record is, however, in no small degree the result of adventitious factors and of policies which, while temporarily stimulating to production, are in the long run economically detrimental. These aspects of the problem will be brought forth in the interpretative analysis of Part III.

PART III

INTEGRATION AND INTERPRETATION

CHAPTER XVI

AN EPOCH OF HISTORY

Detailed discussion of particular phases of economic development inevitably obscures the general picture of economic expansion, and fails to disclose in any adequate way the motivating forces responsible for the evolution of the economic organization as a whole. It is essential, therefore, that we endeavor now to summarize and integrate the foregoing analysis and to interpret some of the larger consequences of the epochal developments that have occurred.

The economic history of modern Japan divides itself into four more or less clearly defined periods. The first extends from the time of the restoration in 1868 to the Chino-Japanese War of the middle nineties. It was a period of foundation laying and relatively slow growth, and was distinguished by the selective adaptation of occidental institutions in the reorganization of the political and economic structure of the country.

The second period, from 1896 to the World War, was one of rounding out and stabilizing the new political, economic, and social system. As a result of the successful wars with China and Russia, and the acquisition of Formosa, Chosen, Karafuto, the South Manchuria Railway zone, and the leased province of Kwantung, Japan during these years achieved her place in the sun and became recognized as one of the great powers of the world. On the economic side this era was one of rapid expansion. The foundations that had been laid in the preceding decades gave momentum to internal development, while the establishment of extensive commercial relations with the outside world

greatly widened the scope of Japanese business opportunity. The economic life of the one-time hermit nation had become a part of the evolving world economic organization, and Japan profited greatly from the world-wide prosperity that prevailed throughout the greater part of this period.

The third period, from 1915 to 1920, was one of extraordinary economic prosperity and expansion, followed by severe reaction. The World War probably did more to stimulate economic expansion in Japan than anywhere else in the world. Japan was a belligerent, it is true, but inasmuch as her participation was virtually limited to naval activities in Far Eastern waters the burdens, either in terms of man-power or finance, were of negligible importance. On the other hand, large orders for military supplies were received from the allied nations, while the curtailment of European competition in Japanese markets greatly stimulated internal industrial development. At the same time Japan was enabled to gain a foothold in the competitive markets of Asia, Africa, Australia, and the South Sea Islands. American prosperity, with its accompanying mania for silk shirts and stockings, also provided the demand basis for a phenomenal expansion of sericulture. The war period thus lifted Japan to an entirely new economic plane—financially, commercially, and industrially.

There is, to be sure, another side to this story. The conditions of the time resulted in the disorganization of the exchanges, the inflation of prices, and social and political unrest. It was during these years also that Japan was tempted to embark upon an ill-conceived and disastrous policy of financial imperialism.

It should also be pointed out here that the phenomenal financial returns obtained from business enterprise generated a belief among many government

officials and business men that extraordinary profits were the normal accompaniments of that system of modern business enterprise of which they had heard so much, but with which they had hitherto had so little experience, and that the streets of the future would assuredly be paved with gold. The government, both directly and through controlled financial institutions, provided virtually unlimited funds for the expansion of economic enterprises at home and abroad. At the same time the managers of business corporations, failing typically to appreciate the precarious nature of inflationary profits, followed a policy of declaring enormous dividends. The results of this policy manifested themselves in a serious way in later years when, in order to continue the policy of large dividends, provision for depreciation of plant and equipment was commonly ignored.¹

The fourth period, extending from 1920 to 1929, is difficult to characterize because of fluctuating conditions in the earlier and changing policies in the later years. The post-war liquidation proved less drastic in Japan than in most other countries—owing chiefly to the financial support afforded by the government and by banking institutions. (See chart showing comparative price movements, Chapter IX, page 151.) The recovery which began in 1922 assumed the proportions of a veritable boom in 1924 and 1925. This short expansion period found its impetus in earthquake reconstruction activities, in the rapid growth of certain new industries (particularly chemical manufacturing and public utility enterprises), and in the carrying out of extensive public work programs by both national and local governments.

The great earthquake which occurred on September 1, 1923, was at once a staggering social and financial

¹ For detailed discussion see Chap. XXII, pp. 436-38.

calamity and an industrial and employment boon of major proportions. The seismic shock occurred at almost exactly twelve o'clock, at an hour when in almost every home the noonday meal was in preparation. As a result, fires started almost simultaneously in many places. The flames, swept by cyclonic winds, were soon beyond control, and spread devastation over a large part of Tokyo, Yokohama, and other cities in the earthquake area. One of the most tragic episodes of recorded history occurred in Tokyo, when approximately 40,000 persons perished from suffocation and heat in an open circle at the convergence of several streets where, with such household possessions as they could rescue and carry, they had gathered in the hope of safety. The total loss of life has been officially estimated at approximately 100,000. The value of the property destroyed has been variously estimated at from five to ten billion yen. About 370,000 buildings were razed, including all in the down-town business district. The area burned over was about 44 per cent of the entire area of the city, and nearly three times that covered by the San Francisco fire of 1906. In Yokohama 26 per cent of the total area was swept by the fire.

Within a few months a reconstruction program was launched which involved the erection of a multitude of temporary dwellings and business establishments, the construction of a large number of permanent "earthquake-proof" buildings, and the rebuilding of street, sewerage, and transit systems along modern lines. Government and banking credits were freely extended; foreign credits and bank balances were heavily drawn upon, and substantial new foreign loans were contracted² for the purpose of meeting the cost of increased importations of construction and other

² For detailed discussion, see Appendix A, pp. 521-23.

materials. We have already seen from the discussion in Chapters XI and XIV how rapidly the government's fiscal and international investment position deteriorated during the years from 1923 to 1926.

Notwithstanding the enormous casualties, the human suffering, and the financial losses that were involved both to individual citizens and to the government, the earthquake reconstruction requirements served to stimulate a wide range of business activities and to create a favorable employment situation. Like the shortage of houses in the United States resulting from the suspended building operations of the war years, the destruction wrought by the earthquake left a great gap to be filled and created an insistent demand for replacement. Indeed, the reconstruction program was so vitally necessary that it had to be carried through almost regardless of cost. It is not surprising, therefore, that a period of renewed inflation ensued, and that the years 1924 and 1925 should resemble in some respects the war period itself. There was the vital difference, however, that the costs of the war catastrophe were borne almost entirely by the people of other countries, whereas the ultimate costs of the earthquake catastrophe rested upon the Japanese people themselves.

Except for a brief period in 1920 and 1921, Japan thus enjoyed rapid economic expansion almost continuously from 1896 to 1926, and particularly from 1914 on. In the post-war years, however, financial conditions were extremely unstable. As we have seen in preceding chapters, the government budget was seriously unbalanced and large loans were continually being floated by central, colonial, and local governments for the purpose of meeting deficits and carrying out both public and private economic undertakings. The balance of payments with the outside world was

heavily adverse, financial reserves and investments accumulated during the war-time prosperity were being rapidly dissipated, and the value of the yen was depreciating. It will be well to recall here the figures presented in Chapter XIV, which indicate that Japan was a net debtor country in 1913 to the extent of 1,223,509,000 yen; a net creditor country in 1919 to the extent of 1,398,723,000 yen; and again a net debtor in 1929 to the extent of 810,215,000 yen.

The country was, in fact, living much beyond its means, though the true state of affairs was obscured by the artificial prosperity which prevailed, and was apparent only to those who know how to look beneath the surface and to utilize statistical evidence in analyzing fundamental trends. But, as so often happens under such circumstances, those who warned of the dangers were regarded as mere pessimists or alarmists.

The consequences of the inadequate liquidation of the early post-war years, of the renewed inflation during the earthquake reconstruction period, and of the general trends which we have been considering did not manifest themselves to the general public until the financial crisis of 1927. While the immediate cause of this panic—the most severe that Japan ever experienced—was the incidental disclosure in the March session of the Diet of the unfavorable condition of certain banks, the primary cause was the extraordinary volume of bad and doubtful loans that had been accumulating in the banks ever since 1920 as a result of the business and financial policies and the conditions outlined above.

The losses resulting from the earthquake, particularly, rendered a large volume of outstanding paper uncollectible and at the same time required an enormous quantity of new loans for reconstruction and for

general relief purposes. To alleviate the banking situation and to facilitate the work of reconstruction, the Bank of Japan, by Imperial ordinance, was authorized to discount specified bills that had been adversely affected by the catastrophe, with the guaranty by the government to indemnify the bank up to the limit of 100,000,000 yen for any losses that might be sustained.

The period of this discounting was originally made to terminate on September 30, 1925; but in view of the unliquidated condition on that date, the law was extended for two years until September 30, 1927. Trouble began when the government as a preliminary step to the removal of the embargo on gold exports, which had existed since 1917, sought in the spring of 1927 to liquidate these outstanding earthquake bills. Measures were introduced into the Diet providing for the compensation of the Bank of Japan for its losses incurred in discounting earthquake paper by the delivery to it of government bonds. At the same time it was planned to lend government bonds to the ordinary banks as a means of enabling them to liquidate remaining earthquake bills over a ten-year period. The necessary discussion of the need for this relief legislation precipitated a loss of public confidence, even though the bills were promptly passed.

The runs on banks started in Tokyo and Osaka and soon spread throughout the country. Meanwhile, many bankers became cautious and took to calling in loans, thus placing many of the borrowing banks in a difficult position. The most important of these was the Bank of Taiwan, which was deeply involved with the Suzuki sugar interests. The Bank of Japan greatly expanded its loans and discounts; but this did not suffice to restore confidence. Some 36 institutions, large and small, were forced to suspend payments. The head office of the Bank of Taiwan continued in operation

throughout the panic period, but branches in Japan proper and some foreign branches suspended operations. The deposits of the defaulting institutions amounted to several hundred million yen.

A moratorium was finally proclaimed for obligations (with numerous exceptions) contracted prior to April 22, 1927, and an extraordinary session of the Diet was convened for the purpose of passing two bills designed to restore financial stability. One bill authorized the Bank of Japan to make special advances to banks for meeting the withdrawals of deposits under government guaranty of indemnity against losses up to 500,000,000 yen; the other provided 200,000,000 yen especially for the aid of the financial institutions of Taiwan. The measures which were passed on May 8 proved effective in arresting the panic.

The result of the panic was a substantial liquidation of the over-extended credit conditions; the elimination of many weak banks; and the merger of many other institutions. It also brought home alike to the government and to the banking community the inherent dangers of easy credit extension and indefinite carrying of borrowers whose financial position is unsound.

The next two years was a period of financial readjustment during which some progress was also made in "rationalizing" industry. In the latter year, the Minseito government was returned to power by a large majority, on a program of financial deflation. This was to be accomplished by rigorous restriction of government loans, called the "no loan policy," and by the lifting of the embargo on gold exports and the restoration of the gold standard at the old parity of approximately 49.8 cents.

Some readjustment in prices and in business activity would, under any circumstances, have been an inevitable accompaniment of this policy of deflation.

When there was added the effect of the world depression which began almost simultaneously, a business reaction of unprecedented severity naturally occurred. The price of silk, the primary article of export, declined within a year by more than 50 per cent, reaching the lowest level since the organization of the Yokohama Silk Exchange. The repercussions of this and other depressing factors were felt throughout the entire economic life of the nation.

Late in 1930, however, business began to show considerable improvement in many lines, notably in cotton textiles. The drastic curtailment of production had resulted in the depletion of stocks, and production for replacement purposes naturally followed. The silk industry, however, remains greatly depressed, and the export of finished products to oriental markets is greatly handicapped by the collapse of silver values.

The year 1927, then, marked the beginning of a period of financial reckoning which was completed three years later with the resumption of the normal functioning of the international exchanges and the decision to balance the government budget and live within the nation's capacity. Even had there been no world depression, the year 1929 would thus have marked in Japan the end of an economic epoch. The problems to which these changed financial policies give rise will be discussed in Chapter XXI.

CHAPTER XVII

THE GOVERNMENT IN RELATION TO ECONOMIC ENTERPRISE

At numerous places in the preceding chapters reference has been made to the aid which has been given by the government to one or another form of economic activity. The fact is that there has been a greater degree of state ownership of industry and closer relations between the government and private enterprise in Japan than has been the case in any other country during the same era. In this chapter we shall endeavor to set forth in a systematic way the part the government has played in the economic development which we have been considering.

The Japanese government has played its rôle in a variety of ways. It has in some cases established outright, and in others participated in financing, pioneer business enterprises. It has promoted economic development directly by the use of public credit and indirectly through the credit of banks established under government auspices. It has extended subsidies and other forms of financial aid to many different enterprises and for a wide range of purposes. Finally, it has stimulated the expansion of industry by means of fostering commercial policies. Each of these methods of promoting economic development requires a brief description and discussion.

I. DIRECT PARTICIPATION IN INDUSTRY

The government of Japan began its pioneering business activities very early in the Meiji era. Without attempting to present a complete or chronological

story, the following illustrations will serve to indicate the range and character of government activities. It will be seen that while the state took the initiative in developing economic enterprises it was regarded as desirable to transfer them in due course to private hands.

In the field of mining the government employed foreign engineers, imported and installed the latest machines, and operated all of the principal gold and silver mines and two of the most important coal mines of the country as model enterprises. These mines were then gradually transferred to private enterprise. By 1888 nearly all were being operated by private concerns.

In textiles the government established a model factory for silk reeling as early as 1872, instruction in reeling technique being given to thousands of girl operatives. In 1874 a model factory for silk spinning, with a view to a better utilization of waste silk, was established under the supervision of a Swiss engineer. Cotton and woolen factories were also set up by the government. For the former, two spinning machines, with 2,000 spindles each, were imported from England, while a German expert was obtained to supervise the latter. Cement and glass factories were also established in the seventies. In 1880 the government enacted a law providing for the gradual transference of all these establishments to private owners.

The relation of the state to the development of transportation and communication has been sufficiently described in preceding chapters. The government took the lead in railroad development by constructing the first line, and, except for the 20-year period between 1885 and 1905, private capital has not played an important part in railroad building. In the field of shipping, as we have seen in an earlier chapter,

the government purchased some foreign vessels and constructed others in the government dockyard at Uruga, transferring them in due course, without compensation, to private companies. Although after the coming of steel ships private enterprise gradually took over all shipbuilding activities, subsidies continued to be granted; and subsidies, as was shown in Chapter V, have been extensively employed in the development of shipping lines.

It may be recalled also that the government played a similar rôle in the development of the iron and steel industry, establishing the Yawata Iron Works in 1896. Private enterprise was encouraged through special legislation, particularly in the form of customs, duties, and exemptions from the business and income tax for a period of years, and by the granting of subsidies and bounties under certain prescribed conditions. The government iron foundry, however, still produces about one-third of the pig iron and about one-half of all the steel produced in the country.

In the early days of the sugar industry in the southern islands, the government directly assisted in financing private firms; and in 1906 a government factory was established for the purpose of putting into practice the result of experiments made in the sugar research bureau of the government.

It will be seen from the foregoing account that the government of Japan followed no set rule in promoting industrial development. The general principle, however, appears to have been to go only as far as might prove necessary to bring about the desired results. In some cases this meant actual pioneer work in setting up and operating business establishments; in other cases it meant financial participation in the organization of enterprises, the government contributing a portion of the funds required; and in still others it

meant only the granting of special favors to private concerns. Whatever the particular method employed, the theory apparently always was that eventually private enterprise might be expected to take over the reins of management—though for reasons of public policy it has seemed desirable that the government should remain permanently in certain fields, particularly in transportation and communication. That the government has never got entirely out of industrial enterprise is evident from the fact that in 1928 there were as many as 371 government factories in operation, having 136,032 employed workmen.

II. UTILIZATION OF PUBLIC AND BANKING CREDIT

The central government of Japan began the modern era, as we have seen in Chapter XII, practically free of public indebtedness. State and local governments were not separately organized until 1890; hence no local public indebtedness existed until well into the modern era. Accordingly, it was possible to utilize public credit much more extensively than would have been the case had the new nation begun its career with a large heritage of indebtedness. Government credit was a virgin resource.

No extended discussion of the purposes for which and the ways in which public credit has been utilized in promoting economic development is here required. We have seen in Chapter XII how the credit of the national government, in the form of bond issues, was utilized in financing the development of transportation, and of the postal, telegraph, and telephone services. The credit of the national government was also placed behind the colonies, thereby enabling these financially undeveloped regions to float loans for similar internal developments. The local autonomies

have also, as we have seen, employed their credit extensively in the construction of public works, sanitation enterprises, and public utilities, as well as for the direct encouragement of industries. These economic enterprises, which were indispensable to the development of a modern economic system, were, as we have seen, usually highly productive in character; and hence from the point of view of government finance they have proved in the long run an asset rather than a liability.

The government has also aided industry in Japan through the intermediation of financial institutions and agencies. To an exceptional degree banking establishments, both commercial and industrial, have been made the servants of commerce and industry. The development of the central commercial banking institutions (of Japan proper, of Taiwan, and of Chosen), the growth of large private banking houses, and the organization of a series of special investment banking agencies and co-operative institutions, have provided a great reservoir of credit which has been available for financing not only the expansion of commerce but also the development of potential resources as well. The danger, indeed, has been not that there would be too little credit available but rather that it might be too readily obtained. We have already seen how the over-expanded credit situation led to the financial collapse of 1927. We are for the moment, however, concerned not with the dangers of the too free use of credit but only with the fact that the economic expansion of Japan was not held back for want of available liquid capital. As we shall later see, the rates of interest charged have been continuously high; but in view of the profits obtained during

the expansion era the relatively high cost of borrowed money was not a factor of vital importance.

III. FINANCIAL CONTRIBUTIONS

The discussion in preceding pages and in preceding chapters has already made it clear that subsidies have played an important part in stimulating economic development in Japan. The policy of granting subsidies and other forms of financial aid has not been confined merely to industry and shipping, but has been extended also to agriculture, mining, forestry, and fishing. The most important ways in which the government has given financial aid to agriculture have been through subsidies to sugar producers in Formosa, the so-called Rice Control Act, and the silk indemnity. These may conveniently be considered first.

In 1902 a sugar subsidy act was passed, under which the government gave a bounty to persons engaged in the production of sugar. The subsidies were extended for the purpose of meeting the cost of young canes, purchasing fertilizers and machinery, and covering the expenses of cultivation. Under an act of 1922, the government supplies young canes free of charge to a person undertaking cultivation with modern machinery and owning his own cane farm; meets 50 per cent of the cost of drainage and irrigation; and makes loans with which to purchase machinery and implements, or provides them free of charge according to the circumstances prevailing in each case. The total of such subsidies is limited to 150,000 yen a year.

The government began the control of the price of rice in 1918 through regulating the supply of imported rice. The Rice Control Act was passed in 1921 for the purpose of stabilizing prices. It provides that whenever the government deems the regulation of the supply or the price of rice desirable it may purchase,

sell, exchange, or store rice, or raise, or lower, or abolish customs duties affecting the importation and the exportation of this cereal. To raise necessary funds, rice purchase notes payable within one year may be issued, or ordinary borrowing may be resorted to—the total that may be raised being now fixed at 270,000,000 yen.

The cost to the government of the operation of the Rice Control Act has steadily increased from 8,283,000 yen in the fiscal year 1922–23 to 75,059,000 yen in 1928–29. The cost during the first seven years aggregated 220,683,000 yen, not counting the losses still to be incurred in connection with the sale of rice in stock worth over 60,000,000 yen. At the end of 1929 the total liabilities that had been incurred by the rice control account stood at 151,545,000 yen.¹

The Silk Stabilization and Indemnification Act was passed in March, 1930 for the purpose of aiding sericulturists who were in great distress because of the calamitous decline in the price of silk which began with the depression of American industry and trade. The law, as amended, provides for the indemnification of silk producers for losses sustained to the extent of 3,516 yen for each so-called account which consists of ten bales. Inasmuch as there were 8,394 such accounts, the indemnity obligation of the government aggregated 29,513,304 yen. This sum is payable in instalments up to June 30, 1932.

The subsidies and other contributions from the national treasury have been extended for a wide range of objects and purposes. The Economic Research Department of the Bank of Japan has compiled a complete list of all these contributions for the fiscal

¹For detailed data with reference to the market operations under the Rice Control Act, and the financial condition of the "account" see Tables 78 and 79, pp. 615–17.

year 1928-29, classifying the items by the fiscal accounts under which they fall.² We present in the following table the outlays grouped according to the purposes to which they are devoted. The figures do not include outlays in connection with the rice control and silk indemnification laws.

CONTRIBUTIONS FROM THE NATIONAL TREASURY, 1928-29
(In Yen)

General Social Purposes:

Education	18,471,403	
Hospitals and sanitation.....	3,470,733	
Labor exchanges, improvement of slums, and other social works.....	3,501,836	
Earthquake relief and reconstruction.	26,405,337	
Police protection	1,120,784	
	<hr/>	52,970,093
<i>Expenditures for general social purposes as per- centage of total</i>		36.5

Public Works:

Water-works	2,178,133	
Sewerage	588,700	
Harbor works	7,925,900	
Road making and repairing.....	7,774,732	
River embankments	10,400,300	
	<hr/>	28,867,765
<i>Expenditures for public works as percentage of total</i>		19.9

Private industry:

Commerce and industry (general)...	180,995	
Steamship lines	10,321,172	
Railways	12,677,707	
Encouragement of automobile industry	979,900	
Encouragement of aeronautics.....	936,000	
Iron foundry and steel works.....	1,750,285	
Smelting	190,000	
Manufacture of dyes	1,004,500	
Manufacture of soda ash.....	213,000	
Industrial laboratory	700,569	
Cotton spinning	230,000	
Woolen cloth weaving	120,000	
Encouragement of use of broad cloths	135,000	
Silk industry	778,656	
Encouragement of sugar industry....	690,000	

² See Table 80, page 618.

Encouragement of oil boring.....	492,000	
Encouragement of subsidiary industries	326,247	
Encouragement of industries in Okinawa	44,218	
	<hr/>	31,770,249
<i>Expenditures for private industry as percentage of total</i>		21.9
Agriculture:		
General aid	12,311,255	
Encouragement of stock farming....	1,500,492	
Encouragement of tea industry.....	4,245	
Encouragement of flax and ramie production	32,000	
Improvement of mulberry plantations	284,414	
Improvement of sericulture	696,084	
Aid to co-operative marketing associations	30,000	
	<hr/>	14,858,490
<i>Expenditures for agriculture as percentage of total</i>		10.2
Forestry, encouragement of	3,246,569	
<i>As a percentage of total.....</i>		2.2
Marine Products Industry, encouragement of	1,928,967	
<i>As a percentage of total.....</i>		1.3
Miscellaneous:		
Encouragement of foreign trade....	1,105,453	
Encouragement of emigration	1,325,945	
Training of mariners	20,000	
Compilation of industrial statistics..	810,012	
Contributions to local autonomies....	2,710,447	
Interest on local government loans...	2,030,966	
Aid to credit associations in Chosen..	284,000	
Financing	150,000	
Others	3,159,223	
	<hr/>	11,596,046
<i>As a percentage of total</i>		8.0
Total	<hr/>	<hr/> 145,238,179

It will be seen that the largest donations were made for earthquake relief and reconstruction, transportation, education, and agriculture. It is of interest to

note that with steamship lines and railways omitted from the classification, the sums contributed for the aid of private industry were materially less than were the amounts devoted to agriculture, even aside from the contributions for rice control and silk indemnification. Of the total outlay of 145,238,179 yen, as much as 22,411,504 yen was from the special account for Chosen and 7,583,575 from the special account for Taiwan.

The financial contributions in support of private economic activities constitute but a small percentage of total government expenditures. Leaving contributions for public works and for general social and miscellaneous purposes out of account, the contributions in the fiscal year 1928-29 for the aid of industry, agriculture, forestry, and marine products amounted to only 51,804,275 yen. This is less than 3 per cent of the total national government expenditures of that year. Contributions for all purposes indicated in the table amount to approximately 8 per cent of the total budget outlays.

IV. COMMERCIAL POLICIES

Tariffs and commercial treaties are other devices by means of which the Japanese government has sought to promote economic development. The history of Japanese commercial policy begins in 1851, when treaties were negotiated with England, Russia, and China. In 1854, shortly after Admiral Perry's expedition, a preliminary treaty was negotiated with the United States. In 1858 these treaties were replaced by conventions which provided for extra-territorial jurisdiction and incorporated a schedule of import and export duties. The duties were in fact dictated by the foreign governments with which treaties were made and were fixed at a very low

level. A general revision of these treaties was made in 1866, and the revised schedule remained in force without modification for 30 years.

With the complete reorganization of the government system, both national and local, which followed the adoption of the constitution in 1889, and with the prestige gained by Japan as a result of her sweeping military victory over China in the middle nineties, the powers finally consented, in 1899, to the abandonment of extra-territoriality, which automatically carried with it the acquisition by Japan of complete tariff autonomy.

It was thus not until the turn of the century that Japan was in a position to attempt systematically to promote industrial development through the levying of protective duties and by the negotiation of commercial treaties designed to be of reciprocal advantage. New commercial treaties somewhat more advantageous to Japan had been negotiated in the late nineties, and these remained in force until 1910, when, for the first time, a comprehensive tariff law was promulgated.

It was the declared object of this general tariff law, which went into operation on July 17, 1911, to obtain larger revenues and to secure adequate protection for Japanese industry. No export duties were levied. As many as 672 imported articles, classified in 17 groups, were incorporated in the new tariff. Raw materials for the most part were duty free, semi-manufactured materials carried small rates, and finished commodities much higher rates, ranging typically from 15 to 40 per cent. Still higher duties were placed upon luxuries. The rates averaged about 5 per cent before 1899; about 10 per cent from 1899 to 1906; and approximately 15 per cent from then until 1911. The average rose in

1913 to about 19 per cent, and then fell during the war years to around 8 per cent—the result of rising prices.

Revised trade treaties with leading commercial countries were entered into after 1911, which provided for concessions regarded as reciprocal advantages. At the present time, Japan maintains the “most favored nation” treatment with 31 countries.

A number of unimportant changes were made in tariff rates in 1915. Then, in 1920, came extensive modifications, intended for the twofold purpose of mitigating the effects of depression and furthering the government's program of national security. In 1924 a 100 per cent ad valorem duty was imposed upon a list of 120 commodities designated as luxuries, the list being slightly reduced in the following year. The purpose of these duties was both to discourage extravagance and to lessen the adverse trade balance. In 1926, a general tariff revision act was passed which, with certain amendments in 1927, 1929, and 1930, is in force today. The average level of rates in 1927 was approximately 17 per cent.

The major principles embodied in the general tariff revision of 1926 have been stated as follows: (1) the free admission of raw materials which are not produced or are scarce in Japan; (2) the reduction of duties on the necessities of daily life; (3) additional protection to stable industries having bright prospects for the future; (4) the imposition of especially high duties on luxuries; and (5) a larger resort to specific, in place of ad valorem, duties.

It is apparent from the foregoing statement that during the last 20 years Japan has followed a policy of high and increasing protection intended to foster economic development. The wide range of protected

commodities is perhaps best indicated by the group classifications, which are as follows:

- Plants and animals (living)
- Grains, flours, starches, and seeds
- Beverages, comestibles, and tobacco
- Skins, hairs, bones, horns, teeth, tusks, shells, and manufactures thereof
- Oils, fats, waxes, and manufactures thereof
- Drugs, chemicals, medicines, compounds, and explosives
- Dyes, pigments, cuttings, and filling matters
- Yarns, threads, twines, cordages, and materials thereof
- Tissues and manufactures thereof
- Clothing and accessories
- Pulp for paper making, papers, paper manufactures, books, and pictures
- Minerals and manufactures thereof
- Potteries, glass, and glass manufactures
- Ores and metals
- Metal manufactures
- Clocks, watches, scientific instruments, firearms, vehicles, vessels, and machinery
- Miscellaneous articles

The detailed classification covers nearly every conceivable individual article of commerce, and resembles nothing so much as the conglomerate tariff schedules of the United States. Like the latter it also has its amusing features, for one finds under comestibles, for example, such interesting commodities as "spawn of mushrooms," "desiccated eggs," "birds' nests," and "dried jews'-ears."

It should be noted that the tariff is not confined entirely to industrial products. Agriculture is also afforded protection. There are ad valorem duties of from 5 to 20 per cent on nearly all kinds of livestock, and corresponding rates on dressed meats, animal fats, butter, and cheese. Rice and paddy, barley, wheat, and other cereals, and a wide variety of seeds and tea are also given moderate protection. In general the principle has been to encourage the production and manufacture within the country of almost every

possible commodity, whether agricultural, industrial, or mineral.

Japan's tariff policy with reference to the colonies has been one of assimilation. That is to say, the same duties against foreign products exist in the colonies as in Japan proper; and at the same time trade between the colonies and Japan proper is practically free. The tariff system of Korea was, however, left in force for ten years after the annexation by Japan in 1910; and Chosen is still permitted to retain some duties for the protection of her products.³

The Kwantung leased territory is a free area, and thus cannot be assimilated within the Japanese tariff system. However, with a view to encouraging industrial development in Kwantung and of promoting exports to Japan, portland cement and 29 other articles produced in Kwantung were exempted from import duties by an act of June 18, 1925.

The export trade of Japan is also encouraged by the government in various ways. The subsidies to shipping companies are tantamount to a bonus on exports, and preferential transportation rates, both rail and water, are direct means of improving the competitive position of Japanese products in foreign markets. Inspection and guaranty of the quality of goods sent abroad and special legislation designed to stabilize exports of certain commodities and to particular markets⁴ are other devices by means of which the government has sought to encourage overseas trade. As we saw in Chapters VIII and IX, foreign trading concerns have also been given abundant financial aid by government controlled financial institutions.

³There were five such articles in 1920; but since March 29, 1929, the list has been reduced to salt and wood.

⁴See Chap. VIII, p. 144.

That the policy of protection has been successful in stimulating the development of many lines of economic enterprise not formerly carried on within the country is evident from the analysis of the growth of industry outlined in preceding chapters. The primary articles of import at present, as we have seen, are raw materials and partly manufactured goods, the former comprising 55 per cent of the total, and the latter another 16 per cent. However, manufactured products, particularly iron and steel, machinery, and miscellaneous articles, still flow into the country in large volume. This is due in part to price considerations, but more to the superior quality of many types of foreign-made goods. Recently a strong agitation has arisen in favor of the purchase of "Japanese-made goods"—the arguments therefor being in part of the usual nationalistic character, but also partly based on the necessity of reducing the annual excess of imports in the interests of exchange stability.

Discussion of the larger economic consequences of these government policies is reserved to the following chapter.

CHAPTER XVIII

ECONOMIC EFFECTS OF FOSTERED INDUSTRIALISM

The forces and policies responsible for the economic development that has occurred in Japan since the beginning of the modern era have as yet been very inadequately revealed. It is clear enough that the opening of the country to foreign trade greatly widened the range of economic possibilities, and that the introduction of occidental methods directly served to increase productive output. We have seen, also, that successive wars, and particularly the world conflict, provided a stimulus to industrial development. But these factors and influences do not fully account for the extraordinary expansion that has taken place. Other motivating forces must be looked for if we are to understand how the population of the little islands which comprise Japan has been able to double in two generations and to acquire in the process steadily improving standards of living. If we are to find the answer to this question, we must consider the economic consequences of the government policies which have been outlined in the preceding chapter.

Since the eighteenth century it has been the tradition in western, particularly in Anglo-Saxon, nations that the rôle of government in relation to economic activity is, and should be, passive in character. That is to say, it is in general the function of government to leave private enterprisers as unhampered as is consistent with the rights of others—to the end that constructive economic developments may under their leadership be achieved. To be sure, there have been many exceptions

to this policy of passivity, particularly in relation to international commerce where it has been assumed that the government has a definite responsibility to stimulate the economic development of the nation by means of import duties or export bounties of one kind or another. It should be observed, moreover, that the extent to which occidental governments have played an active part in fostering economic development has varied markedly in different countries, Germany being a notable example of close co-operation between governmental, industrial, and financial groups. In recent years governments everywhere are being looked to increasingly for the direct promotion of economic welfare. At the moment, indeed, comprehensive national planning for economic reorganization and expansion, chiefly as a result of the Russian experiment and the advertising it has received, has become a subject of both academic and public interest.

In Japan, from the very beginning of the modern era, the rôle of government in economic affairs has been, as we have seen, an active one. The small group of men who were the political and economic advisers of the young Emperor, Meiji, and who with the passage of time became known as the "elder statesmen," were perhaps the first modern nation planners and builders on a comprehensive scale. They set up a series of national objectives, political, social, and economic, and then proceeded in systematic fashion to develop the ways and means for reaching the ends in view.

Upon reflection, it is not surprising that the Japanese government should have assumed a position of leadership in the economic transformation and development of the country, for such leadership is consistent with and is the natural outgrowth of the principles of feudal organization, which existed in Japan until after

the Revolution of 1868. Whereas in the occidental world something over 200 years intervened between the breakdown of feudalism and the beginning of large-scale modern business organization, in Japan the change had to come without an intermission. Thus at the advent of the modern era there was no conception that the function of government in economic activity should be a passive one, with reliance upon private enterprise to furnish the drive required for progress. On the contrary, there was a firmly rooted tradition that trade and other profit-making activities were defiling to the soul. Among the Japanese *samurai* this feeling doubtless ran deeper, even in the latter half of the nineteenth century, than it did among the feudal nobility of Western Europe in the seventeenth century.¹

Apart from the few great mercantile families whose business operations had their beginnings in the Middle Ages, there were, then, at the beginning of the Meiji era almost no private business men equipped by training and experience to develop the latent resources of the nation. Potential business leaders were, moreover, in the main without capital resources, and by virtue of the fact that in the early days of the Meiji era there was no financial organization by means of which the necessary credits could readily be procured, it was an absolute necessity, if rapid advancement were to be achieved, that the government should assume an active rôle.

The statesmen of Japan have conceived their program as one which would, while making the nation

¹ On the other hand, it should be pointed out that the Japanese people are unusually patriotic and responsive to government leadership and suggestion. Hence, with the government pointing the way, the shift from the old to the new point of view with reference to profit-making was accomplished in an unusually short period of time.

strong from a military point of view, at the same time provide material well-being on an expanding scale for a rapidly growing population. In general, policies have been directed toward building an industrial and trading nation rather than leaving the country dominantly agricultural. So active a program of political leadership, or, if one prefers, interference in economic affairs, naturally challenges the attention of the economic observer with the question: Was such a course calculated to advance the ultimate economic well-being of the nation as a whole, or was it merely winning short-time results and entailing disproportionate long-time burdens? Was it benefiting certain groups to the detriment of others?

I. THE LIMITATIONS OF AGRICULTURE

As a first step in appraising the success of these policies we may well turn our attention to the possible alternative and ask whether, in the absence of vigorous industrial growth—however brought about—it would have been possible to find support for a population of the present size on the basis of agriculture alone. To this question the answer is clearly in the negative.

Between 1870 and 1930 the total population of Japan proper increased approximately 32,000,000. During the first 25 years this increase was in substantial part absorbed in rural occupations—the process being facilitated by the development of the northern island of Hokkaido. But after the Chino-Japanese War the increase was found chiefly in the cities. Between 1898 and 1925 the total population increased from 42,886,000 to 59,058,000, or a little over 16,000,000. During this same period the number of people living in cities and towns having more than 10,000 inhabitants increased from 8,040,000 persons

to 21,800,000. Thus, out of a total increase of 16,172,000, as much as 85 per cent occurred in cities and towns.

In considering whether this enormous increase in population could have been absorbed in agricultural pursuits—and at a rising plane of living—certain facts of fundamental importance must be borne in mind. Even before the beginning of industrialism, the agricultural population was extremely dense. There was comparatively little unoccupied land, and most of this was of distinctly inferior quality. Even when making full allowance for the holdings of large land-owners which might have been more effectively utilized, the fact remains that Japan had little possibility for agricultural expansion.

The productive area of Japan has long been cultivated by the most intensive methods. The average land holding is about 2.67 acres, and the so-called "petty owners," who comprise 70 per cent of the agrarian families, have on the average about 2.5 acres. There were in 1928 only 70,429 families out of 5,575,881 which cultivated more than 12 acres. Between seasons the irrigated rice fields are drained and utilized for wheat, barley, or other crops; and the dry fields are also rotated so as to yield two or more different crops a year. To the traveller it appears that almost every available inch of land is utilized. In an automobile trip of more than 100 miles, the writer could discover only about three square yards of unutilized available space: everywhere crops or garden truck were growing at the very edges of the highways.

Except in the frigid north, Japanese cultivable land has been worked with amazing intensity, such as we hardly see in the famous vineyard regions of Southern Europe. Its wildernesses are trimmed and the deep forests combed of every twig or cone. High volcanic hills are ingeniously hollowed and mounded for water-paddies until they flash

light as from a thousand facets; and in autumn they are studded with drying racks, on which the rice straw hangs in bundles, each tied as neatly as a Christmas present. Over the rushing streams are flung humpbacked bridges and beside them kneel women washing the long white radishes, or *daikon*, that look like piles of baby elephant tusks.²

Investigation shows, nevertheless, that even today there are some possibilities for further agricultural development within Japan proper. Professor Shiroshi Nasu, of the Tokyo Imperial University, has estimated that the prospective area for the expansion of arable land is approximately 4,667,000 acres, an area 10 per cent less than that of the state of New Jersey.³ In the nature of the case, however, these lands are typically of inferior quality; and they would at best provide occupation and support at present living standards for something like a million families.

Since the agricultural resources of Japan are thus seriously limited, it is evident that had the nation depended upon agriculture as the basis of its economic life as exclusively since the 1890's as it did before that time, either the population would have had to be held down to much smaller numbers than are found today, or the standard of living would have had to be severely depressed. The pressure of population would not only have compelled the resort to poorer and poorer land, but it would also have tended to reduce still further the average size of land holdings. It is reasonable to suppose that under these circumstances both restriction of population and more meagre living conditions would have been the result.

II. THE SIGNIFICANCE OF INDUSTRIALIZATION

In seeking to appraise the economic importance of the growth of so-called industrialism, it is necessary

² Beard, Miriam, *Realism in Romantic Japan*, p. 345.

³ *Land Utilization in Japan*, p. 242.

to bear in mind that such development inevitably involves the evolution of a wide range of related activities. The growth of manufacturing and transportation necessitated the development of a complex commercial and financial structure and numerous concomitants in the way of public service and professional activities. The following table shows the number of people in the various occupations, as revealed by the census of 1920. The data for 1930, when available, will undoubtedly show a considerably greater number in urban occupations.

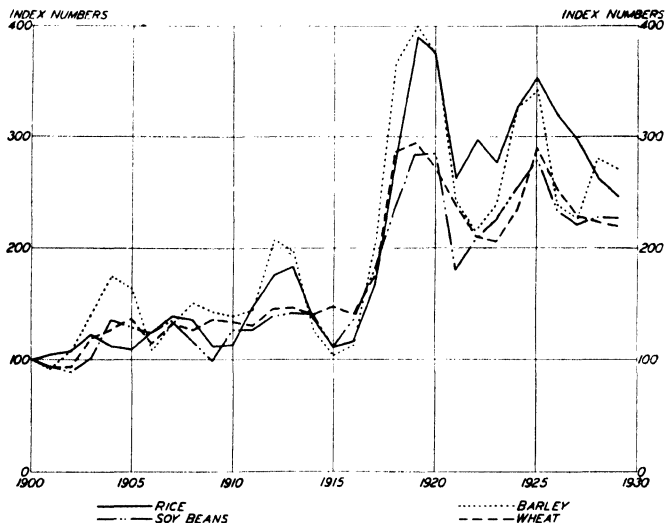
	Number of Workers
Agriculture	14,128,360
Aquatic products industry.....	558,314
Mining and quarrying.....	424,464
Manufacturing industry.....	5,300,248
Commerce and finance.....	3,188,002
Transport and communications.....	1,037,238
Public service and professions.....	1,441,832
Other occupations.....	527,451
Domestic service (not in households).....	20,315
Non-dependent, unoccupied.....	751,931
Total.....	27,378,155

Accompanying the development of industrial and related economic activities and the growth of a large urban population, there has been a general rise in the standard of living. This improvement is found in the country as well as in the city, agricultural conditions, until the last few years, having shown steady improvement in comparison with former times. Throughout the eighteenth and early nineteenth centuries, the condition of the masses beggars description.

Even in normal times, the peasants did not have enough to live on. They ate the cheaper grains and potatoes, and very seldom tasted the rice they produced, for it was taken away as tax, and what little was left them had to be sold to get necessary money. The sufferings in famine years

were indescribable. . . . Multitudes of people died of hunger. Such a desperate situation drove the peasants to appeal to the lord, and when their appeals were not heard, furious riots broke out. In 1764, the peasants (of different provinces) united and attacked wealthy people in the vicinity

WHOLESALE PRICE MOVEMENTS OF PRINCIPAL FARM PRODUCTS,
1900-1929 ^a



^a For data see Table 81, p. 620.

and plundered rice and money from their storehouses. . . . There are over 50 local uprisings of peasants recorded in historical writings.⁴

We are told that "during the first decade of the nineteenth century the rural population decreased by 1,400,000 owing to death by misery and poverty."⁵ Rice riots occurred at intervals throughout the

⁴ Takizawa, Matsuyo, *The Penetration of Money Economy in Japan and Its Effects upon Social and Political Institutions*, pp. 78-9.

⁵ Uyehara, S., *The Industry and Trade of Japan*, p. 4.

Tokugawa era, and conditions improved but slowly in the early years of Meiji.

It was not until the growth of a large urban population afforded a home market for the products of Japanese agriculture that genuine improvement began. This urban development not only brought expanding markets, but it resulted in higher prices. This meant, typically speaking, an increased return to the farmer, since the costs of production did not tend to rise as fast as did prices. Indeed, under these conditions, it was profitable to increase the use of fertilizers and otherwise to improve methods of tillage. The wholesale price movements of the principal agricultural products, other than silk, are indicated on the opposite page. Since 1920, as the chart shows, the agricultural situation has, however, been seriously affected by falling prices. Moreover, in Japan, as in the United States, agricultural conditions have been greatly complicated by virtue of the fact that a large volume of mortgage indebtedness was incurred during the war and early post-war period when land values were greatly inflated.⁶

It is also of interest to note that the expansion of agricultural production over the last 20 years has been accomplished without any aggregate increase in the total acreage under cultivation. Tables 1 to 4 on pages 542-45 show that while there has been some increase in the area devoted to rice cultivation, the total acreage of principal field crops has declined slightly since 1920 and is now smaller than it was in the years just before the World War. On the other hand, the yield per acre has in the case of most crops increased materially. Thus the pressure of population upon the land has actually been relieved.

⁶ See data in Chap. XXII, p. 428.

Without the steadily expanding domestic market for agricultural products resulting from the increase of urban population, agriculture could not possibly have fared as well as it has. Even had the rural population remained relatively stationary, it is inconceivable that foreign outlets for rice or other products, comparable in magnitude to the expanding home market, could have been obtained. Increasing costs of production, transportation charges, and restricted markets abroad would have combined to prevent large exports of Japanese agricultural products.

In fostering industrial and related activities, the leaders of Japan were thus turning redundant labor to the production of goods and services which could in part be used for domestic consumption, thereby increasing the material well-being of the population, and in part be exchanged abroad for goods and services not supplied at home. Instead of pushing agriculture further and further down the scale of diminishing returns by the application of excessive labor to extremely limited natural resources, this labor was applied more productively in manufacturing and related lines. The diversification of the country's economic activities is responsible for the economic progress that has occurred.

Two questions, however, remain for further consideration. The first is whether industrial expansion would not have occurred even in the absence of fostering activities on the part of the government, and the second is whether the cost of this development has been equitably apportioned among the different divisions of society.

III. THE CONTRIBUTION OF GOVERNMENT LEADERSHIP

In view of the fact that agriculture was in a state of diminishing returns, the question naturally arises

whether the increasing population would not, in any event, have migrated to the cities and developed industrial and commercial activities comparable if not identical with those that now exist. If labor and capital could be applied more productively in new forms of activity than in agriculture, would not the free working of economic forces have brought about the transition and accomplished the same results? The answer appears to be that, notwithstanding the pressure for new forms of economic activity, industrial and urban development would have proceeded very much more slowly in the absence of the government's fostering policies.

The government has, in fact, performed in a large way the function of the entrepreneur. We have already noted that because of old traditions and conditions there were few experienced business enterprisers in Japan in the earlier part of the Meiji era and virtually no accumulations of private capital, and that under these circumstances the government performed a very important function in setting the pace for private enterprise and in furnishing the funds required for the development of economic resources. Each aspect of this government participation requires further elaboration.

The entrepreneur function of the government was not confined merely to constructing and operating individual business establishments. Of much greater significance was the rôle which the government played in setting up general economic objectives, in studying the economic institutions of other countries and adapting them to the particular requirements of Japan, and in promoting the more or less simultaneous development of these institutions as parts of a co-ordinated economic system.

The financial aid of the government was rendered in part by the use of its credit and in part by means of its power of taxation. On the whole, the use of credit was probably of primary importance. By virtue of the ability of the government to draw upon foreign sources of capital and also to tap such domestic resources as existed, funds were made available for the development of economic enterprise more rapidly, more abundantly, and more cheaply than would otherwise have been possible. Of perhaps even greater importance were the credit resources made available by government controlled banking institutions. The loanable funds of commercial banking institutions—in Japan as elsewhere—are derived in part from the savings of the people, but in substantial part they represent credit resources “manufactured” by an evolving commercial banking organization.⁷ The significant point here is that, by virtue of the government’s borrowing abroad and the development of the internal commercial credit organization, a substantial part of the liquid funds required for economic expansion could be procured without antecedent savings on the part of the people. The interest on the loans was in due course paid out of the profits derived from the developing enterprises themselves. Instead of being at the expense of certain groups of the population, these developments thus paid their own way. It goes without saying that such a generalization does not apply to every particular enterprise, for many mistakes were undoubtedly made; but it is applicable to the situation in the large.

⁷ The significance of commercial banking credit in relation to economic expansion can here be only briefly touched upon. For a fuller exposition of certain phases of the problem the reader is referred to the author’s “Commercial Banking and Capital Formation,” *Journal of Political Economy*, May, June, July, and October, 1918.

To a considerable extent this generalization also applies to funds raised by means of taxation. If the enterprises which are supported out of taxation expand they are eventually able to yield compensating returns to the government. From one point of view, indeed, subsidies may be looked upon as an investment by the government rather than as a gift. If the developments which occur in response to the stimulus of subsidies enable the enterprises thus aided to contribute, in due course, taxes for the support of the government, the latter may well have made a good investment. Concretely, if as a result of 100 yen of subsidy, taxes increase annually from the subsidized enterprise to the extent of six yen, one may say that the government is receiving interest or dividends on an investment in a developing business.

The truth appears to be that, in general, the enterprises which have been subsidized have yielded the government good financial returns as well as provided employment for an expanding population. In view of the widespread notion that agriculture supports the cities and that the "artificially stimulated" urban development is essentially "parasitic" in character, it is well to recall in this connection, first, that much more than 50 per cent of the total revenue of the government is derived from the 50 per cent of the population which lives in the cities; and, second, that the subsidies extended to agriculture, forestry, mining, and fishing are quite as important as are those extended to transportation and manufacturing activities.

The protection afforded by the tariff also appears on the whole to have been economically justified. In general the duties have not been particularly high, and yet they have served to encourage infant industries which, in the main—whatever may be said of particular cases—have been economic assets to the

nation. In this connection it should be kept in mind that the higher costs of commodities which have resulted from the tariff have been borne rather more by the city than by the rural population—this because the former are much larger consumers of protected commodities, both manufactured goods and foodstuffs.

In the light of this general analysis, we therefore conclude that the managerial and financial functions assumed by the government have in general yielded economic fruit. The tempo of expansion in agriculture, in mining, in fisheries, as well as in transportation, shipping, manufacturing, etc., has been very greatly accelerated. In view of the conditions prevailing in Japan at the beginning of the Meiji era, it is doubtful if, without the stimulus and general co-ordination which resulted from government policies, any considerable industrial and commercial expansion would have occurred prior to the World War.

IV. RELATIVE TAXATION BURDENS

The second question raised above remains for consideration. Granted that industrial and urban activities have, as a whole, been self-supporting and a benefit rather than a detriment to agriculture, has the burden of taxation been equitably distributed? Even though the city people may have contributed more in absolute terms toward the support of government than has the agricultural population, it does not follow that they have contributed *in proportion* to their greater wealth. What evidence is available on this issue?

There is apparently no doubt that for a great many years the agricultural population contributed considerably more in proportion to income than did the urban population. The earnings from corporate enterprises, particularly during the period from 1915 to

1926, were extremely high,⁸ while the taxation rates were comparatively low. The inequitable character of the taxation system was, as pointed out in Chapter XI, finally recognized by the government, the revisions of 1926 and 1927 establishing a tax exemption limit on land owned by peasant proprietors.

A survey made in 1929 by the Tanaka Ministry reached the conclusion that the tax burden on the farmer is even now somewhat greater in proportion

RELATIVE BURDEN OF DIRECT TAXES ON LAND-OWNERS AND
BUSINESS PROPRIETORS, 1929 ^a
(In yen)

Income	Per Capita Taxes Paid by Farm Land-Owners			Per Capita Taxes Paid by Business Proprietors		
	Total	National	Local	Total	National	Local
1,200	270	68	202	126	44	82
2,000	530	144	286	230	88	142
3,000	874	259	615	366	157	207
5,000	1,395	457	938	701	316	385
10,000	3,485	1,187	2,298	1,603	814	799
30,000	12,097	4,956	7,141	6,819	3,737	3,081
100,000	53,225	22,168	31,057	30,058	17,883	12,175

^a Ouchi, Hioye, *Tax Burden on Salaried Men and Farmers as Revealed by the Official Survey of Their Livings*, XIX^o Session De L'Institut International de Statistique, Tokyo, 1930, p. 9.

to income than that on business proprietors in urban districts. The figures, which covered 120 farm land-owners and 168 mercantile proprietors, are given above. The per capita taxes on the farm land-owners are roughly double those on business proprietors. Of equal interest and significance is the fact that it is the local taxes rather than the national levies which fall so heavily upon the land-owner. These heavy local taxes, moreover, go principally for the support

⁸ See data on pp. 436-37.

of cities and towns. Data are not available with which to measure the comparative burden of direct and indirect taxes combined upon the farm land-owners and business proprietors.

The contention that the agricultural population generally bears a very much higher taxation burden than does the city population is usually based upon an analysis of the returns from direct taxes only.⁹ Utilizing data from the cost-of-living survey elsewhere referred to, Hiroye Ouchi, professor of public finance in the Imperial University of Tokyo, compares the relative burdens of both direct and indirect taxes upon the salaried man of the city and the small independent farmer and tenant farmer. In the matter of direct taxes, he finds that a slightly larger percentage of the total expenditures of the farmer goes for tax payments than is the case with the salaried man. But in the case of indirect taxes on the consumption of liquor and tobacco, the salaried man's burden is heavier in an appreciable degree than is the farmer's. Taking the two taxes combined, Professor Ouchi concludes that the tax burden on the farmer and on the city salaried worker is approximately equal; and he implies that if, in addition to that on liquor and tobacco, the excise on sugar and custom duties be in-

⁹ An article by Daisuke Tsuchiya, entitled "Incidence of Taxation in Rural and Urban Districts," published in the *Journal of Agricultural Economics*, Vol. VI, No. 2, June, 1930, seeks to show that direct taxes are relatively lower in prefectures having large cities than in other prefectures. The conclusion is, however, valueless, because the method of calculation is fallacious. The total income which is used for comparison with the amount of the tax includes only such income as is not tax exempt. Inasmuch as annual income of less than 1,200 yen is subject to no tax, while there are many exemptions with reference to smaller and earned incomes, and in view of the fact that the average income is very much lower in the country than in the city, much of the income of the rural communities is automatically excluded.

cluded, the burden on the city salaried man would be proportionally heavier.

The fact is that, as the table on page 214 (Chapter XI) shows, the excise on liquors and soft drinks comprises over 46 per cent of the total indirect taxes. These taxes, and also customs duties and the sugar excise, in fact fall more heavily upon the cities. This is because of the relatively restricted income of the typical farm family, which has little margin with which to purchase manufactured commodities.¹⁰

It appears, therefore, that at the present time farm proprietors still contribute proportionally more than do the proprietors of industrial and commercial enterprises in the cities. On the other hand, the salaried man of the city contributes in taxes a larger proportion of his total income than do the small independent farmers and tenant farmers. As for the urban and rural laboring populations, the only taxes borne are those which fall indirectly as a result of the consumption of commodities which are taxed. Since these depend directly upon the amount of consumption, the burden may be regarded as directly proportional to income.

In concluding this discussion the writer feels it necessary, even at the risk of some repetition, to protect himself from possible misinterpretation. While our appraisal leads to a general endorsement of the national plan which was conceived by the founders of modern Japan and which has been carried out so largely under the fostering care of the government, we wish it to be understood that this does not imply approval of all details of that policy. It should perhaps be emphasized again that while the ready availability of credit has been of primary importance in

¹⁰ See discussion and data on pp. 371-72.

stimulating economic expansion, it has also been a source of danger and has created difficult problems of financial readjustment. The tariff policy, while generally helpful, has been applied too indiscriminately and, as we shall see in a later chapter, needs revision to meet the economic requirements of the future. Finally we wish to make it clear that we express no judgment upon the political considerations which have been involved in the government's program, as these fall outside the scope of our immediate interests. We have been concerned solely with ascertaining the general effects of government policies upon the rapidity of economic expansion.

CHAPTER XIX

SOCIAL CONSEQUENCES OF ECONOMIC EXPANSION

We have thus far been concerned with the general story of economic development as revealed in cold and colorless statistics expressed in terms of tonnage, bushels, horsepower, or yen. What now have been the effects of the momentous changes outlined in preceding chapters upon the structure of society and upon the position of the masses of the people? Have the gates of opportunity been opened wider, and have the conditions of life on the whole been improved?

It is no part of our purpose to attempt an appraisal of the cultural incidence of the profound social changes that have occurred in so brief an interval. No foreigner could do this unless he had spent many years in the islands—indeed unless he had lived in both the old and the new Japan. And even such an observer could do no more than depict the cultural changes as seen through his particular pair of eyes and give expression to his individual reactions as to the ultimate significance of events. We shall therefore be content merely with the statement of certain facts with reference to the ways in which the life of the masses of people has been affected.

I. THE CHANGING SOCIAL STRUCTURE

In old Japan the lines of social cleavage were clearly drawn. Rural life was organized under the economic and military control of a hierarchy of feudal lords. "There was no equality in freedom . . . even an ordinary *samurai* could not see his chief and could never

have audience with the shogunate. The people had to kneel and bow so low as to touch their foreheads on the ground whenever they met a procession of feudal lords. The commoners had no right of appeal against unlawfulness, inhumanity, and tyranny of classes higher in the social scale.”¹ The position of the masses of workers was, however, in some respects superior to that of the serfs of mediæval Europe. Although bound to the soil, the peasant commonly owned his strip of land, and he possessed considerable opportunity in local self-government. It was almost impossible for one to rise appreciably in either the economic or social scale, except through adoption into a family of status. Moreover, owing to the character of Japanese religious thought, the economic and social system as a whole was invested with a sort of spiritual sanction.

Life in Japan today in many ways bears a striking resemblance to that in occidental countries. The system of universal education has not only virtually eliminated outright illiteracy but, what is more significant, it has spurred the ambitions of millions to attain a higher plane of living, and it has created among the rank and file, at least of the urban population, a cosmopolitan attitude of mind in marked contrast with the complete provincialism of former times. As an illustration of one way in which school life itself has opened new avenues of enjoyment, mention may be made of a recent high school championship baseball game which was attended by 70,000 persons. In the range of recreational and cultural activities open for the enjoyment of the many, Japan now compares not unfavorably with leading countries of the West.

The gradual extension of the voting power and the recent granting of universal manhood suffrage have

¹ Uyehara, S., *The Industry and Trade of Japan*, p. 3.

also had profound effects. It is regarded as the final achievement of the democratic institutions and practices which were foreshadowed in the Charter Oath of the great Emperor Meiji. Whether or not the suffrage improves the efficiency of government, it makes life, as a Japanese laborer remarked on casting his first ballot, very much more interesting. Though woman suffrage has not as yet been granted, its attainment is apparently inevitable.

On the economic side we find today a curious admixture of the old and the new. In many lines of activity we see the modern factory with its thousands of wage earners, among whom are large numbers of women and children. This population lives in slum centers, in cheap lodging houses, or, as is commonly the case with young girls, in factory dormitories provided by the employers. Economic insecurity, that is, irregular work and unemployment, has, as we shall see, been increasing in recent years.

On the other hand, a very large portion of the manufacturing activity is still carried on under a quasi-handicraft system of small-scale enterprise, under which the position of the worker is fairly similar to that which prevailed in former times. While wages may be pitifully small, the employer has a sense of parental responsibility for the laborers' welfare, and his economic position is thus relatively secure. This feeling of employer responsibility, which is a heritage of the past, is, as we shall presently see, also found in many large industrial establishments, and manifests itself at times in somewhat amusing ways.

Life in rural communities has also been greatly affected by the developments of recent decades. Although the methods of cultivation which have been employed for centuries have not been greatly modified, there have nevertheless been very important changes

affecting the life of the farmer and his relation to the nation as a whole. Perhaps the most far-reaching in its consequences has been the expansion of rural educational facilities. The country children of today, of both sexes, are given a rudimentary education, and interest in the affairs of the world in general is stimulated.

A second important development has been the growth of co-operative organizations to which reference has been made in Chapter IX. The local co-operatives include credit, sales, purchase, and "utilization" associations; and the local societies are organized into a central co-operative association, the principal functions of which are to give training and practical guidance in co-operative methods and to act as an agency for procuring funds.

In 1922 there was also enacted an "Agricultural Society Law" for the purpose of promoting agriculture generally. Societies now exist in many villages and towns; these are united into county associations, which in turn are members of prefectural organizations; and these prefectural bodies are finally united in the Imperial Agricultural Association. These agricultural associations and societies have tended to create in each locality a community of interest and to promote economy and efficiency. National associations have for their part tended to broaden the outlook of the agricultural population and to develop a national consciousness. The isolation of the old days has thus in no small measure disappeared.

With this brief sketch of the more general aspects of the changing social structure in mind, we may now turn to an analysis of the effects of industrialism on the life and work of the classes and groups most directly affected. We shall consider in turn protective

labor legislation, unionism, working hours and wages, unemployment, living conditions, social welfare agencies, and general social unrest.

II. PROTECTIVE LABOR LEGISLATION

Under the system of small-scale handicraft industry which prevailed in old Japan there was no labor problem in the common meaning of that term, the relation between employers and workers being that of master and servant or apprentice. For a number of years after the beginning of the factory system, moreover, the relations between laborers and capitalists were unusually favorable. The transformation from household to capitalistic industry was accompanied by comparatively minor dislocations of the labor market, with no such hardships to particular groups of people as occurred in England at the time of the industrial revolution.

This fortunate situation was chiefly attributable to the gradual character of the industrial expansion. The development of industry, as it occurred, gave increased opportunities for employment and readily absorbed the expanding labor population. The gradual character of the changes that were taking place prior to the World War as compared with later years is indicated by the table on page 350.

It will be seen that, at the end of the first 30 years of the modern era, there were less than half a million factory employees, and that the rapid increase did not begin until the period of the World War. In passing, it may be noted that the striking feature of the table is the number of women workers who are found chiefly in the textile industries and in retail establishments. In textiles, the most important factory indus-

try, approximately 80 per cent of all employees are women, a substantial proportion being young girls.

Because of this slow industrial transition and the tardy emergence of a modern labor problem, it was not until well after the turn of the century that the government passed legislation designed to safeguard and promote the welfare of the working population. The first legislation of this kind is found in the Mining Act of 1905, which prescribed a number of safeguards for the workers of this particularly unhealthful and hazardous industry. The first factory act was not passed

INCREASE OF FACTORIES AND FACTORY WORKERS, 1900-1928 *

Year	Number of Factories ^b			Number of Workers		
	With Motive Power	Without Motive Power	Total	Male	Female	Total
1900.....	2,388	4,896	7,284	164,712	257,307	422,019
1904.....	4,000	5,234	9,234	207,951	318,264	526,215
1909.....	9,155	23,073	32,228	307,139	493,498	800,637
1914.....	14,578	17,139	31,717	383,957	564,308	948,265
1919.....	26,947	17,002	43,949	706,074	814,392	1,520,466
1924.....	36,850	11,197	48,047	748,927	893,552	1,642,479
1928.....	45,909	9,668	55,577	840,584	959,633	1,800,217

* Data supplied by the Bureau of Social Affairs of the Japanese Department of Home Affairs.

^b Exclusive of government factories, which in 1928 employed 136,032 workers. Prior to 1919, all factories employing over ten persons are included; since then, all employing more than five workers are included.

until 1916, although the government had contemplated such a law for over 30 years. This law, as amended in 1926, contains numerous important provisions for the promotion of the physical and general welfare of the working classes. The main features of the existing labor laws are as follows:

The Factory Act applies to all factories employing more than ten workers and to all establishments in which the work is of a dangerous character or injurious to health. The minimum age of juvenile workers in industry is 14 years, though children over 12 years of age may be employed if they have completed six years of common school education.

The working day in industry for all females and for boys under 16 years of age is ordinarily limited to eleven hours, between 5:00 A. M. and 10 P. M. Until August 31, 1931, however, a 12-hour day was permissible in spinning and silk weaving factories producing for export. However, practically all of the spinning mills are now operated on an 11-hour basis. Night work is generally prohibited, an exception being in coal sorting above ground where the miners are employed in one of three or more alternating shifts. Moreover, in underground mining, where the workers are employed in alternating shifts, night work is permitted until August 31, 1933.

If the working day for women and children is longer than six hours, a half-hour rest period must be allowed, and if longer than ten hours, a one-hour rest interval must be provided. Two rest days per month are also required. Females and minors are also prohibited from engaging in dangerous and injurious occupations and are prevented from working under conditions detrimental to health. For the protection of maternity, industrial employment of women is forbidden for a certain period before and after child-birth, and, as we saw in Chapter X, the terms of the Health Insurance Act provide for compensation in child-birth cases. It should also be recalled that all workers employed in factories subject to factory legislation are entitled to

benefits under the Health Insurance Act, the provisions of which are set forth in Chapter X.

In the event that individuals require medical care, for illness or injury suffered in the course of factory work, beyond the extent afforded by the insurance benefit, employers are obliged to continue the allowances. In cases of disability resulting from factory employment, the employers must give compensation according to the degree of the disability; and, if death ensues, allowances must be made to the family of the deceased. The employer is, however, exempted from responsibility for absence allowance and disablement allowance when, in the opinion of a prefectural governor, a worker is injured or falls ill as a result of his own negligence.

The government also undertakes the inspection of factory conditions. For this purpose a corps of special factory inspectors are employed. Where it is deemed necessary for safety and health, the use of the whole or a part of any imperfect plant may be forbidden.

III. UNIONISM

Notwithstanding the steady growth of an urban wage-earning population, it was not until the period of the World War that the workers became genuinely class conscious and developed the methods of industrial negotiation and bargaining with which the western world had long been familiar. It is true that, beginning as early as 1898, abortive attempts had been made to organize trade unions; but the only labor organization in existence at the outbreak of the World War was a general federation composed of laborers in various lines of industries and occupations, which was organized in 1912. The existence of this organization

did not, however, attract public attention until 1915, when a delegate was sent to the convention of the Federation of Labor in the United States.

The emergence of an aggressive labor movement was precipitated by the rapid rise in the cost of living during the period of the World War. A large number of trade unions were organized between 1915 and 1920, the movement being greatly influenced by the general labor unrest in Europe, the Russian Revolution, and the organization of the International Labor Office. In 1918 a Federated Association of Workers was created for the purpose of promoting the interests of labor by means of concerted action. A division, however, soon occurred within the federation, the left wing going its own way and the more moderate elements establishing the Japan Federation of Labor.

The growth in the number of unions and in membership in recent years is shown by the following table:²

Year	Number of Associations	Number of Members
1922.....	389	137,381
1923.....	432	125,551
1924.....	469	228,278
1925.....	457	254,262
1926.....	488	284,739
1927.....	505	309,493
1928.....	501	308,900
1929.....	630	330,985

The rapid growth of urban labor controversies is indicated by the following table, which covers only the cases involving strikes, lockouts, and sabotage, the lat-

² Data supplied by the Bureau of Social Affairs of the Japanese Department of Home Affairs.

ter term being used to cover deliberate idling while on duty.³

Year	Number of Disputes	Number of Workers Involved
1914.....	50	7,904
1915.....	64	7,852
1916.....	108	8,413
1917.....	398	57,309
1918.....	417	66,457
1919.....	497	63,137
1920.....	282	36,371
1921.....	246	58,225
1922.....	250	41,503
1923.....	270	36,259
1924.....	333	54,526
1925.....	293	40,742
1926.....	495	67,234
1927.....	383	46,672
1928.....	397	46,252
1929.....	576	77,444

The table indicates an enormous increase in labor controversies during the war period, and, what is even more significant, the continuance of disputes at approximately the war-time level throughout the post-war era. The post-war disputes have, however, been of an essentially different character. From 70 to 80 per cent of the disagreements through the war years were over demands for higher wages, and only about 4 per cent had to do with reduction in wages. In the depression period of 1920–1922, the controversies over reductions in wages ranged from 16 to 27 per cent of the total. After the depression of 1922, demands for better factory equipment and for increased allowances at time of retirement or dismissal were responsible for from 20 to 30 per cent of the total disputes, whereas before 1920 they accounted for only 3 to 5 per cent of

³ *Ibid.*

the total. In the depression of 1929-1930 wage reductions became the most common source of controversy.

The government's attitude toward labor organization was long one of vigorous opposition. The first legislation affecting labor in Japan was enacted in 1900. While the law did not explicitly forbid strikes, it virtually did so by prohibiting violence, intimidation, or act of insult in trying to induce persons to become members of any association concerned with improving labor conditions by co-operative action; and by forbidding any action intended to persuade persons to stop work or to reject an offer of employment with a view to promoting labor policies.

It was not until well into the post-war era that the official attitude toward labor showed any marked change. In 1924 a new period began when the government departed from its policy so far as to choose official delegates to the Sixth International Labor Conference from among the various workers' organizations. Two years later the provisions of the act of 1900, above referred to, were repealed; and in the same year the Labor Disputes Arbitration Law was enacted.

This act applies particularly to public utility enterprises, including transportation, the postal, telegraph, and telephone services, water-works, and electric and gas industries. Any industry which is directly related to the public welfare may come under the control of the act by Imperial ordinance; and it is applicable to any industry if either party to a dispute applies for conciliation. The Board of Conciliation consists of nine members: each party to the controversy elects three members from among its own membership, and those six appoint the remaining three from an impartial public. To September, 1930, only one case had been settled (in May, 1930).

The government has also endeavored to improve industrial conditions in numerous other ways. In 1919 the Capital and Labor Conciliation Association was established with a fund amounting to 8,800,000 yen, of which 6,800,000 was contributed by capitalists and 2,000,000 by the government. The purpose of this society is to bring about the peaceful solution of labor controversies and to promote more amicable relations generally.

Mention should also be made of the fact that many employers have in recent years promoted the establishment of societies for the mutual assistance and associations of workers, or factory committees. These societies numbered 1,728 at the end of 1929. The factory committees have as their express purpose the promotion of harmony between capital and labor; and at the end of 1928 they numbered 171, of which 91 were connected with state factories and 80 with private establishments. The subject of discussion or conference by these committees, which are composed of employers' and laborers' representatives, is mainly the improvement of factory equipment or working conditions.

Despite the changing attitude on the part of both government and business, unions do not as yet possess definite legal status. In 1926 the Bureau of Social Affairs of the government drafted a labor union bill intended to lay down the principles that should govern collective bargaining. The bill as drafted met with strong opposition from industrial leaders, who suggested numerous modifications, which in turn were quite unacceptable to labor. In the end the bill did not pass the Diet. In 1930 the same bureau drafted a new labor union bill, the general purpose of which was to accord to labor unions official recognition and protection, to facilitate their efficient control, and to ensure an orderly development of the labor movement.

In brief, the bill defines a labor union in terms similar to those employed in occidental countries and permits a union to be incorporated and to act as an individual. Employers are forbidden to make non-membership of or withdrawal from a labor union a condition of employment or to discharge employees merely because they are members of a union. On the other hand, unions are forbidden to make contributions to political campaigns; and a union may be dissolved by the government in case its acts are found injurious to the public peace and order.

This bill, like its predecessor, after passing through various revisions, failed to become a law. Employers expressed dissatisfaction on the ground that it granted too liberal protection to the labor unions and encouraged class war. They held that the enactment of laws regulating labor disputes was a more urgent present need. The workers, on the other hand, complained of the law as being too much directed toward the control of the unions. They argued that the bill should have definitely precluded the possibility of applying to labor disputes police regulations for the maintenance of the public peace.

IV. WORKING HOURS AND WAGES

Despite the labor legislation of recent years and the resulting improvement of conditions, the hours of work still compare unfavorably with those of western countries. Even in 1928 as many as 12.8 per cent of the total number of workers employed in factories having more than ten operators were under 16 years of age; 87 per cent are girls, of whom roughly one-fifth are under 16 years of age. Most of the female workers, as already indicated, are employed in the textile industries.

According to an investigation made by the government in 1927, the typical working day ran from nine to eleven hours. Fifty-three per cent of the textile factories were run in shifts of from ten to twelve hours, excluding a rest period.⁴ An investigation made by the Bank of Japan, covering about 3,300 factories operating from October to December, 1929—the busy season when hours are longest—showed the following average daily working hours in the various groups of industries.

AVERAGE WORKING HOURS PER DAY, 1929

Industry	October		November		December	
	Hours	Minutes	Hours	Minutes	Hours	Minutes
Textile	10	2	9	58	9	56
Engineering	9	30	9	30	9	38
Metal works	9	40	9	37	9	38
Ceramics	9	31	9	26	9	26
Paper making	10	41	10	42	10	42
Chemicals	9	25	9	24	9	25
Food and drink	9	28	9	24	9	23
Printing and bookbinding	9	44	9	47	10	13
All others	9	21	9	16	9	18
Average	9	45	9	43	9	45

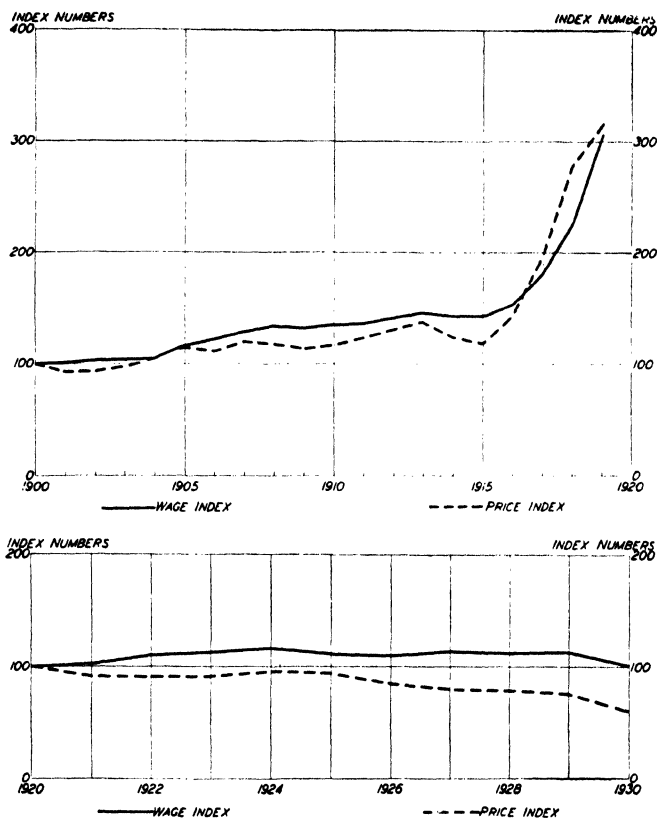
Except in textile, paper manufacturing, printing and bookbinding establishments, the typical working day is from nine to nine and a half hours, though subject to fluctuations of a seasonal character. The period taken was the high season for the printing and bookbinding trades. Overtime work is very extensive in periods of prosperity, but no national statistics on the subject are available.

Real wages have increased materially since pre-war days. While wage and cost-of-living data are far from satisfactory until recent years, it is possible, from the statistical series available, to indicate the general trend

⁴ In July, 1930, the working day was reduced one hour in the silk reeling industry, by government order.

since 1900. The most nearly continuous and comparable series are the wholesale price and wage index

WHOLESALE PRICES AND WAGES, TOKYO, 1900-1930^a



^a The supporting data are given in Table 82, p. 621.

numbers of the Tokyo Chamber of Commerce and Industry.⁵ From 1900 to 1919 they are based on the average for 1900, while from July 1, 1920 to 1930,

⁵ The trend of prices of this index follows closely that of the Bank of Japan.

they are based on the average for the second half of the year 1920. The trend is shown in the diagram on page 359.

It will be seen from the chart that wages increased faster than wholesale prices from 1900 to 1914. Then followed the war-time inflation which, after 1917, carried prices much above wages, though labor was probably fully compensated by the steady and overtime employment that was available. From 1920 to 1929 prices declined while wages registered a substantial advance.

For retail prices it is also possible to present figures from 1914 to 1929, though again there is a change of base midway in the series. Indexes of retail prices in Tokyo compiled by the Bank of Japan were fortunately recovered for certain years, after the loss of materials in the earthquake and fire of 1923, and the trend is shown in the following table. The figures from June, 1914, to December, 1922 are calculated on the prices of seventy commodities with January, 1904 used as a base. The series from 1922 on is calculated on the July, 1924 prices of 100 commodities.

Date	Index Number	Date	Index Number
June, 1914.....	128.1	December, 1922.....	213.9
December, 1916.....	169.5	December, 1923.....	226.3
December, 1917.....	219.1	December, 1924.....	228.5
December, 1918.....	278.5	December, 1925.....	212.3
December, 1919.....	379.1	December, 1926.....	188.7
December, 1920.....	319.1	December, 1927.....	185.7
December, 1921.....	335.6	December, 1928.....	189.1
December, 1922.....	308.1	December, 1929.....	171.4

It will be seen that the retail price trend closely resembles that of wholesale prices. The rise from 1904 to 1919, however, was proportionately greater than that of wholesale prices, while the decline since the post-war collapse has been less rapid in the case of

retail prices. The trend of wages and prices since 1926 is more accurately revealed by the following wage and retail price data. The wage figures show the standard rates and the actual earnings, including piece rates and income from overtime work. Wages in private factories, government factories, and the

RETAIL PRICE AND WAGE INDEXES, 1926-1929 *

Classification and Year	Retail Price Index	Standard Wage Index			Index of Actual Earnings		
		General	Male	Female	General	Male	Female
Private Factories:							
1926.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927.....	94.7	99.9	100.1	99.1	102.1	101.2	99.4
1928.....	92.0	99.1	99.1	98.3	105.3	103.3	99.8
1929.....	91.1	98.6	98.6	97.4	103.9	102.6	96.4
Government Factories:							
1926.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927.....	94.7	101.8	101.5	102.4	104.5	103.6	102.5
1928.....	92.0	103.6	103.0	104.5	106.6	105.7	103.7
1929.....	91.1	104.2	102.7	105.9	108.0	106.7	105.3
Mining Industry:							
1926.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927.....	94.7	104.5	104.4	105.0	104.0	104.0	104.0
1928.....	92.0	105.2	105.4	101.7	104.6	104.6	101.8
1929.....	91.1	105.4	105.4	99.3	105.1	104.9	99.5

* Compiled by the Bank of Japan. This investigation was begun in 1922; but the records for the first two years were lost in the earthquake and fire of 1923, and the compilation was not resumed until 1926.

mining industry are shown separately. The data for private factories are derived from about 3,300 reporting establishments.

In every case it will be seen that the actual earnings have risen during a period when retail prices were falling. The largest increase in the actual earnings is shown in the government factories. Female labor has

not fared as well as male labor. The apparent improvement in the condition of the laboring population as a whole during these four years is, however, in some degree offset by the increased volume of unemployment in recent years.

The average daily wages and earnings of workers employed in the principal industries at the end of 1929 is shown in the table which follows. The figures have

AVERAGE DAILY WAGES AND ACTUAL EARNINGS OF FACTORY WORKERS, DECEMBER, 1929
(In yen)

Industry	Standard Wages		Actual Earnings	
	Male	Female	Male	Female
Silk reeling.....	1.22	0.91	1.23	0.94
Spinning.....	1.41	0.91	1.60	1.02
Weaving.....	1.32	0.82	1.65	1.00
Dyeing.....	1.44	0.85	1.66	0.87
Mechanical.....	1.95	0.88	3.10	1.20
Shipbuilding.....	2.15	0.88	2.98	0.95
Vehicle.....	1.93	1.02	3.28	1.27
Tools and instruments....	1.82	0.88	2.66	1.28
Metal works.....	1.80	0.88	3.05	1.15
Ceramics.....	1.57	0.79	2.14	0.98
Paper making.....	1.49	0.74	1.86	0.84

been compiled by the Bank of Japan and cover 3,600 reporting factories^a comprising 90 per cent of all factories employing over 40 to 50 workers.

No effort is here made to compare these wages with those of other countries, since comparative wages throw little light upon the relative living conditions in different countries. We present in a following section, however, a brief summary of living conditions in both

^a This table includes 300 silk reeling factories which were excluded from the preceding table because of violent seasonal fluctuations in employment.

urban and rural communities, as revealed by a recent official budget survey.

V. UNEMPLOYMENT

Until recent years unemployment has not presented a serious problem in Japan. This fortunate situation appears to be the result of three principal factors. First, as has already been pointed out, the rate of industrial expansion until the era of the World War was such as to absorb steadily the increasing population; while the phenomenal economic expansion which began in 1915 and continued with but a brief interruption until 1926 took care of the rapidly expanding labor supply of that period.

In the second place, the figures of unemployment, even in recent years, are not large, as gauged by occidental standards, for the reason that Japan is still far less industrialized than are such countries as Germany, England, and the United States. Not only is agriculture still of great importance, but a large part of the so-called industrial establishments are, as we have seen, conducted on a very small scale. Indeed more than half of the total number of listed factories employ from five to nine laborers, while many other establishments have less than five workmen.

A third very important factor in the Japanese labor situation is the strength of the traditional family system. Workers temporarily unemployed have always, until perhaps very recently, been welcome at home during periods of enforced idleness; and because of the short distances workers from the country can return home in a few hours at the most. In the cities, moreover, many workers, particularly the female employees, continue to live with their parents. This situation has greatly mitigated the problem of unem-

ployment, and accounts for the fact that it is almost never visible. A leading social worker of Japan, who travels continuously over the islands, informs the author that he has in 1930 for the first time seen travelling "hoboes" of the familiar American type.

Another factor that has tended to ease the effects of unemployment is the employers' practice of giving dismissal allowances, at the time workers are discharged.⁷ The amount of the allowance varies but is not uncommonly the equivalent of one or two months' wages. This practice is a survival of the old feudal relationship between employer and employee and its influence extends even to factories of considerable size. So strong is this feeling of paternal responsibility that employers not infrequently pay wages to strikers during the actual period of a strike or give unemployment allowances to workers discharged in consequence of strikes. Actual strike expenses have also at times been contributed in lump sums to be used for specified purposes.⁸ The employer thus discharges his responsibility to the workers and their helpless families who, in his view, have been misguided by irresponsible agitators.

It should be added that not always is the motive one of pure altruism, for the practice has also come to be looked upon as a means of preventing the establishment of a system of compulsory unemployment insurance, which would impose a heavier burden upon employers. It should be added also that the workers have come to oppose the practice of paternalism, on

⁷ Under an ordinance issued in June, 1926, for the administration of the Factory Act, workers in factories are entitled to a discharge allowance equivalent to 14 days' notice, if they are dismissed without previous notice of two weeks.

⁸ For numerous illustrations, see Harada, Shuichi, *Labor Conditions in Japan*, pp. 225-34.

principle, demanding unemployment compensation as a right.

The same paternalistic attitude that prompts the giving of unemployment allowances also leads to the retention of workers on the payrolls at times when productive requirements do not warrant it. This is true not only in periods of depression, but it is more or less common at all times. Industrial establishments and government agencies as well are notoriously over-staffed. The policy of employers in this respect is undergoing some change, however, as the recent data on the volume of unemployment attest.

Unemployment has been increasing in recent years. Although the first serious unemployment situation developed during the acute business reaction of 1920-1922, no reliable data bearing on the problem are available prior to 1925. Unofficial estimates of the number unemployed during the depression of 1920-1922 run as high as 200,000 to 300,000. On October 1, 1925, the government conducted the first unemployment census, which is to be repeated at regular five-year intervals. This first census covered only 21 industrial cities and three mining towns and their suburbs. The number of unemployed is placed at 105,612.

The trend of employment in recent years is shown by means of an employment index compiled by the Bank of Japan for both male and female labor. The index is based on 1926, a good year, as 100, and is compiled on the basis of returns from about 3,300 factories.

	Males	Females
1926 (January).....	99.8	100.5
1927 ".....	98.4	95.9
1928 ".....	96.4	85.6
1929 ".....	98.1	81.9
1930 ".....	96.6	81.0

The employment situation for women workers is much less favorable than for men. The first to be let off in slack times are typically women, particularly the young girls. Since these commonly live at home, or can readily return to their homes, the distress attending unemployment is, therefore, considerably mitigated.

In recent years the number of casual workers or day laborers has been steadily increasing, and their condition in the winter season is pitiable. A large and increasing percentage of these transients are Koreans—the number registered in 1928 amounting to 18,675 or 55.3 per cent of the total registered casuals.⁹

Unemployment is also steadily increasing among the salaried workers. The unemployment investigation of 1925 showed 19,296 salaried workers out of work; and the situation has grown steadily worse. Indeed, the situation of the educated classes generally is one which gives rise to grave concern and suggests the necessity of a thorough reorganization of educational objectives.

At the beginning of the Meiji era, Japan had no trained personnel for the educational, technical, business, and professional positions that arise in a complex economic organization. The vacuum thus existing gave to all those who in the early part of the modern era were able to obtain a higher education exceptional opportunities for advancement. With education the open sesame to position and affluence, it was inevitable that its advantages should be sought by ever increasing numbers of people. Japan now has more universities than any other country in the world except the United States. The number of students enrolled in universities, colleges, higher schools, and middle

⁹ Idei, Seishi, "The Unemployment Problem in Japan," *International Labor Review*, October, 1930, p. 510.

schools alike, has increased by leaps and bounds in the last 20 years, as is indicated by the following table.

Year	Middle Schools	Colleges and Higher Schools	Universities
1912.....	305,700	42,100	8,900
1916.....	375,500	50,400	9,700
1921.....	550,100	64,900	26,200
1925.....	829,800	87,600	46,700
1928.....	975,200	98,900	80,900

Although during this period the number of grammar school students increased by only 30 per cent, the number in the middle schools trebled, those in the colleges doubled, and those in the universities increased tenfold. In the year 1928 there were 21,400 university graduates.

Those who acquired superior training 30 or 40 years ago are still in the main in active service, and the new openings do not increase rapidly either in the higher or in the intermediate levels of opportunity. Thousands of young men are annually graduating from colleges into joblessness. An investigation recently conducted by the city of Tokyo shows that the number of college graduates who procure positions is steadily decreasing. In 1923, as many as 97.8 per cent of college graduates obtained positions; in 1925 this percentage was reduced to 66.6; in 1927, to 64.7; and in 1929, to 50.2. Since the beginning of the depression in 1930, the condition is, of course, much worse. Moreover, the character of the jobs obtained has been growing steadily less satisfactory, increasing numbers of college graduates being forced to accept positions of the most menial character.

The preliminary reports of the census of October 1, 1930, a time of severe depression, showed the total

number of unemployed in Japan proper to be 322,527, of whom 151,225, or less than 50 per cent, were city workers. The total unemployed in the 24 cities and mining centers covered by the census of 1925 was 155,575. The relatively low figure of unemployment for 1930 has been the subject of no little controversy. It may possibly in part be due to defective enumeration, and it is probably in no small measure attributable to the tendency on the part of many employers, as pointed out above, to discharge workers outright only as a last resort. No doubt an exceptional amount of part-time work exists. In any event, the number of people seeking food and other aid from the Salvation Army and other relief agencies was enormously greater in 1930 than in previous years.

Even when making full allowance, however, for the possible understatement of the employment situation it remains very favorable as compared with that in the industrial nations of the West. It is evidence of the fact that Japan is still relatively not highly industrialized—resembling France rather than Germany, Great Britain, or the United States.

A system of labor exchanges has recently been established. Unofficial employment agencies have existed for many years, the first “free lodging house and free labor exchange” having been established in Tokyo by the Salvation Army some 25 years ago; and numerous other local employment agencies were established shortly after the World War. It was not until 1921, however, that a system of official exchanges was authorized by the government, and not until 1924 that they were thoroughly established.

Under the supervision of the home office, public employment offices have now been set up in all the principal cities of the country and employment agencies

are located in all town and village halls. One-sixth of the expenses of operation are contributed by the central government. These agencies are useful also in facilitating the administration of other social policies, such as health insurance, vocational instruction, and the gathering of statistical data.

VI. LIVING CONDITIONS

We have seen from the preceding section that real wages have been rising during the last 15 years, and we found in Chapter XV that the national income as a whole has risen substantially since pre-war days. The wage and income figures thus far presented, however, have not given any adequate picture of living conditions. Fortunately, we have available for this purpose the results of an exceptionally good family budget inquiry conducted in 1926-27 by the Bureau of Statistics of the Cabinet.¹⁰

This investigation covered six different occupational classes and a large number of localities. Actual family budget records for the period September 1, 1926 to August 31, 1927 were procured from something over 7,000 families, living in numerous cities and districts. Returns from 5,455 completed budgets were tabulated. They cover three groups of families—salaried workers of the city; wage earners, comprising factory, mining, transportation, and day laborers; and farmers, including owners, part-owners, and tenants. The number of budgets tabulated for salaried workers was 1,575; for wage earners, 3,210; and for farmers, 670. The average number of members to the family was 4.17 for the salaried worker, 4.21 for the wage earner, and 5.83 for the farmer.

¹⁰ Matsuda, T., *The Family Budget Enquiry in Japan, 1926-1927*, XIX^e Session De L'Institut International de Statistique, Tokyo, 1930.

An analysis of the sources of income and the purposes for which expenditures are made by these families serves to reveal more clearly than do other data the way in which the different classes of people live. The situation is revealed in the several tables which follow.

It will be seen that in the case of the salaried worker the wife and other members of the family contribute about 4.7 per cent of the earnings, and in the case of the wage earner about 8 per cent. The income

INCOME OF SALARIED WORKERS AND WAGE EARNERS
(Average monthly income, in yen)

Classification	Earnings				Other Income				Total
	Husband		Wife	Others	From Lodgers	From Property	Presents	Miscellaneous	
	Principal	Subsidiary							
Salaried worker	108.03	1.62	3.76	2.75	0.48	5.22	11.81	3.50	137.17
Wage earner...	84.67	0.44	3.55	4.26	0.64	1.92	5.92	0.67	102.07

from property, which includes investments, was in both cases much less than that from presents. The total expenditures of the salaried group amounted to 124.34 yen, leaving a surplus of 12.83 yen. In the case of the wage earner, the expenditures were 91.38 yen, leaving a surplus of 10.69 yen.

Among the 1,575 salaried workers whose budgets were recorded there were nine who reported incomes of less than 60 yen a month, the average for the nine being 53.31 yen, and there were 156 reporting more than 200 yen, the average for this group being 230.02 yen. In the wage-earning group 191 reported incomes of less than 60 yen, averaging 52.86 yen, while 41 showed incomes in excess of 200 yen, averaging 231.41 yen. The average figures are somewhat higher than

those shown in the wage tables on page 362, indicating that the methods of selection resulted in procuring returns from families of relatively high average earnings. The number of workers per family is also below the average.

The income of farm families classified as independent, semi-dependent, and tenant farmers is shown in the following table:

INCOME OF FARM FAMILIES
(Average monthly income, in yen)

Classification	Net Income from Agri- culture	Earnings			Other Income			Total
		Hus- band	Wife	Others	From Prop- erty	Pres- ents	Mis- cel- lane- ous	
Independent . . .	74.91	3.66	0.42	2.73	20.29	7.19	3.33	112.53
Semi-dependent . .	65.29	5.13	0.86	5.07	12.75	7.47	3.76	100.33
Tenant	47.21	6.62	1.04	6.00	8.77	6.71	2.81	79.16
Average	61.57	5.30	0.83	4.90	13.00	7.18	3.38	96.16

Here the earnings of the wife and other members of the family are relatively larger, even apart from the work done directly on the farms. Among the 670 farm family budgets, 106 showed an income of less than 60 yen, averaging 47.10 yen, while only 15 showed an income of more than 200 yen, the average being 221.11 yen. The monthly expenditures of the independent farmers were about three yen less per month than the income, but in the other two groups the expenditures reported were slightly in excess of the income.

The classified expenditures of the various groups are indicated by the table on page 372.

The restricted range of outlays and the meagre amounts devoted to so-called "luxuries" and to cultural and recreational purposes reveal more reliably

FAMILY EXPENDITURES OF SALARIED, WAGE, AND FARM GROUPS
(Average monthly expenditure in yen)

Classification	Salaried Workers	Wage Earners	Farmers
Food and drink.....	40.61	36.33	44.01
Rice.....	13.17	14.29	23.75
Other cereals.....	0.62	0.56	2.65
Fish and shell fish.....	3.75	3.12	1.94
Meat.....	1.39	0.93	0.26
Eggs.....	0.95	0.50	0.21
Milk.....	0.35	0.20	0.10
Beans and vegetables.....	2.92	2.60	3.57
Dried food.....	0.53	0.39	0.33
Tofu *.....	2.15	1.99	1.84
Sugar, salt, etc.....	3.46	3.08	4.59
Bought meals:			
Consumed at home.....	1.08	0.72	0.26
Consumed outside.....	2.54	1.44	0.18
Luxuries.....	7.70	6.51	4.33
Alcoholic drinks.....	1.98	2.56	1.90
Non-alcoholic drinks.....	0.64	0.44	0.33
Tobacco.....	1.46	1.27	0.57
Cakes and fruits.....	3.62	2.24	1.53
Dwelling.....	22.84	14.42	14.64
Rent.....	18.15	11.14	9.86
Repairs.....	0.89	0.74	2.77
Water supply.....	0.39	0.21	0.08
Furnishings.....	3.41	2.33	1.93
Heat and light.....	5.66	4.17	5.89
Clothing.....	17.18	11.87	7.59
Sanitation.....	7.68	5.84	2.71
Rearing of children.....	1.62	1.53	0.37
Education.....	2.36	1.00	1.01
Daily journeys.....	2.19	1.13	1.15
Correspondence and transpor- tation.....	0.52	0.21	0.16
Stationery.....	0.25	0.12	0.15
Taxes.....	1.41	0.51	1.31
Companionship.....	10.29	6.46	7.58
Presents.....	7.38	4.92	5.45
Dinner parties.....	1.08	0.31	0.25
Miscellaneous.....	1.83	1.24	1.88
Culture and recreation.....	6.03	3.26	2.16
Travel.....	1.43	0.90	0.58
Hired labor.....	0.34	0.12	0.16
Miscellaneous.....	3.93	3.51	6.92
Total.....	137.17	102.07	96.16

* Bean-curd, *tsukudani*, and similar prepared food, and pickles.

than do the total income figures how low is the general standard of living, even among the more fortunate families.

Budget comparisons between different countries are likely to be somewhat misleading because of varying methods employed in the making of surveys, because of variations in living requirements, and also because of differences in the purchasing power of the monetary unit. It is nevertheless suggestive to compare the results shown by this Japanese budget inquiry with that of the German family budget inquiry of 1927-28.¹¹ The German inquiry was based upon 896 workers' households and 546 salaried employees' households. The average monthly income for the German workers amounted to 277 marks per month, or approximately \$70, as compared with \$51 per month for the Japanese worker, the average size of the families selected being approximately the same. The German family spends 45 per cent on food compared with about 40 per cent by the Japanese family. The comparative earnings for the salaried employees are \$68 per month for a Japanese family as against \$98 for a German family. Reduced to income per person, the amount is about \$16 in Japan as compared with approximately \$25 in Germany.

The mass of the population is able to live on the meagre incomes available by virtue of several major economies. The first is the general practice of continuing to live with parents after marriage. Living quarters are, moreover, of extremely restricted dimensions. The second is the use of the simplest, scantiest, and cheapest sort of clothing. In summer very little is worn, and in winter the people are accustomed to bearing cold and exposure. The wooden shoes, which

¹¹ Published in *Wirtschaft und Statistik*, 1929 and 1930.

are the almost universal footwear, are as economical as they are noisy. The third major economy is in food. Rice, fish, and vegetables are the great staple food-stuffs of Japan, and all are relatively low in price. The number of eggs consumed per person annually is about 40, while the per capita consumption of meat is a little over three pounds. High death rates are no doubt evidence of undernourishment and privation.

Despite the very low incomes of the masses of the people, a considerable percentage manages to effect some savings. As we found in Chapter IX, deposits in postal savings banks and other savings institutions have shown a steady growth for many years. It is of more than passing interest, also, that the practice of making presents to one's friends, as the household budgets reveal, is apparently universal.

VII. SOCIAL WELFARE AGENCIES

Organized social welfare work is of very recent development in Japan. Traditionally the provision of charitable relief has been a prerogative of the Imperial family. Some 1,500 years ago the Emperor Yuryaku is said to have established orphanages out of pity for children found deserted on the streets. In the eighth century, the Empress Komyo, moved to compassion by the sight of suffering lepers, opened hospitals and dispensaries for their care. Continuously in recent centuries the Imperial household has taken the lead in promoting and contributing to charitable enterprises. To cite a single recent illustration, on the occasion of his enthronement the present Emperor in 1928 contributed 1,500,000 yen to be distributed among all sorts of social agencies throughout the country.

The first charity law was enacted early in the Meiji era—in 1874. It has been amended at various times,

and in 1929 a new public relief act was passed which will supersede all former regulations. This law will not go into effect, however, until January 1, 1932. Its main provisions are as follows:

The following classes of persons incapable of self-support are afforded relief: (1) Infirm persons over 65 years of age; (2) children under 13 years of age; (3) women before and after child-birth; (4) invalid and other persons unable to work owing to illness, injuries, or other mental or physical suffering.

As a rule relief shall be administered by the mayor or head-man of the city, town, or village in which the recipient of relief resides, or, when there is no permanent or known residence, where he is found.

Relief shall ordinarily be given at the home of the recipient; where this is impossible the recipient may be taken to a relief institution, a private home, or other suitable place.

Relief shall be in the following forms: (1) Aid toward sustenance; (2) medical care; (3) aid in connection with child-birth; (4) aid in connection with occupations.

The allocation of expenses between the various governments is as follows: The national treasury shall subsidize up to one-half of the following: (1) Expenses borne by cities, towns, villages, or prefectures; (2) costs of the relief institutions established by local governmental units or by private persons. The prefectures shall pay one-fourth of these various expenses.

If the recipient of relief subsequently becomes capable of repaying the costs of the relief accorded him, he may be ordered by the city, town, or village, or prefecture which had borne such cost to make repayment in full or in part within five years from the date on which the relief was stopped.

The disbursements made in the financial year 1928-29 are shown in the table on page 376. Foundlings are also supported by government subsidies, which amount to the cash equivalent of about 3.5 bushels of rice annually. Subsidies are likewise provided

for the care of people found sick or dead in the streets, and for refugees during national calamities. Soldiers' homes and pensions are provided for disabled and dependent ex-soldiers, while aid is also rendered in this group by the Japanese Red Cross, patriotic women's societies, and the Imperial Ex-Service Men's Society for supporting soldiers.

A feature of the social welfare work of Japan is the semi-official district committee system. The function of this comprehensive organization is to investigate continuously the living conditions of the poor in

GOVERNMENT EXPENDITURES FOR WELFARE WORK, 1928-29
(In yen)

For Care of	National Government	Local Governments
The disabled, the aged, the sick, and orphans.....	64,890	484,110
Foundlings.....	7,650	90,431
The sick and the dead found in the streets.....	—	507,731*

* Of this sum 71,810 yen were recovered afterwards from those responsible for the persons in question.

all sections of the country and to rectify the traditional defects of relief work which have resulted in giving too much assistance to some while all but ignoring other needy groups. This system, which is modelled after that of Elbenfeld in Germany, has been instituted in most of the prefectures, and for several years has been handling tens of thousands of cases a year. The membership of committees consists of unpaid public-spirited citizens.

With a view to eliminating the necessity of charity, welfare work in Japan, as in other countries, has in recent years been developed along more constructive lines. The social insurance measures and the

employment exchanges established by the government have already been discussed. In addition, public markets (both wholesale and retail), dining-rooms, baths, lodging houses, and pawnshops have been established and various housing and rental concessions have been made. Numerous co-operative associations, under both public and private initiative have, as elsewhere noted, been organized. A few social settlements, of excellent character, have been developed in recent years.

VIII. SOCIAL UNREST

In Japan, as in many other countries, the events of the last 15 years have occasioned an exceptional degree of social unrest. This has manifested itself chiefly among three classes in society—the laboring population, the “intellectuals,” and farm tenants and workers. The latter class, because of its fundamental importance as well as because of its relation to the labor movement of the cities, may advantageously be discussed first.

The development of a radical labor movement during the later war years was quickly followed by a similar movement among the rural population. Tenant farmers' associations, or unions, as they are sometimes called, soon began to be organized for the purpose of more effective bargaining with the landlords. After the collapse of agricultural prices in 1920, the growth of these associations was very rapid, as shown by the following table:

Year	Number of Associations	Number of Members
1922.....	1,114	132,322
1923.....	1,530	163,931
1924.....	2,337	232,125
1925.....	3,313	307,106
1926.....	3,915	338,706
1927.....	4,275	347,429
1928.....	4,115	325,983
1929.....	3,866	301,326

The landlords also organized a large number of associations in the early post-war years. From 1926 to 1929, however, the number decreased from 591 associations to 543, with a membership of 48,104. Records of disputes between agricultural workers and landlords are not available prior to 1917. The increase in controversies from then until 1929 is shown by the following table:

LANDLORD-TENANT CONTROVERSIES, 1917-1929

Year	Number of Disputes	Number of Landlords Involved	Number of Tenants Involved
1917.....	85	...	...
1918.....	256	...	...
1919.....	326	...	...
1920.....	408	...	...
1921.....	1,680	34,180	145,898
1922.....	1,578	29,077	125,750
1923.....	1,865	32,036	129,120
1924.....	1,260	21,910	88,315
1925.....	1,354	19,938	86,406
1926.....	2,029	30,601	116,669
1927.....	1,344	17,068	65,996
1928.....	1,144	13,087	50,357
1929.....	1,501	11,078	48,565

From an average of only 78 agricultural disputes a year just prior to the war, the number rose gradually during the war period, and then enormously in the difficult post-war era. The fact that they have occurred in a period of profound agricultural depression indicates that the economic situation is quite as responsible as the example of urban labor organizations and the dissemination of radical doctrines. The controversies initiated by the tenants are concerned primarily with the amount of rent to be paid. For a time in the early post-war years as many as 25 per cent of the controversies were concerned with demands for permanent

reductions in rent, but by 1929 the percentage had declined to 6 per cent. The cases raised by the landlords have increasingly demanded the surrender of tenancy, the percentage of cases in this field of controversy rising from 1 per cent in 1924 to 25 per cent in 1929.

For the promotion of peace in the agricultural field, the government passed in December, 1924, the Tenant Farmers' Arbitration Act. Under this law 7,597 cases had been handled up to December, 1929. The record shows that the percentage of the cases brought before this board by the tenant farmers has been increasing. A reconciliation was, in fact, effected in 42 per cent of all cases considered.

The basic difficulty in the agricultural situation is that, at present prices, the value of the product is insufficient to give a decent return to all who derive support from the industry. The income obtained by the owners of land is very small in comparison with that received from investments in industrial and financial enterprises. The position of landowners is, moreover, complicated by virtue of the fact that a large volume of mortgage indebtedness was created in the war and early post-war years, when prices were substantially higher than those of today.¹² The position of the farm tenant has also been tremendously affected by the fall in the prices of farm products. In fact, the trend of agricultural conditions in general resembles that in the United States during recent years.

The difficulties of the rural villages have been complicated of late by the growing unemployment in the cities. When thrown out of work, urban laborers, who are recruited in good times from the agricultural districts, return to the farms and homes whence they came. Notwithstanding the traditional strength of

¹² See p. 428 for mortgage data.

family ties, these returning workmen are no longer welcome guests. Their labor is not needed, and they inevitably serve to deplete the already meagre resources of the rural family.

The labor movement in Japan has thus far achieved little success politically. Not only has it been difficult to cement the interests of farm workers and tenants with the city laboring population, but there has been no cohesion within the ranks of urban labor itself. As we have already seen, there was a split in 1919 between the radical and conservative groups; and as the years have passed separatist tendencies have been more and more in evidence. The division results in part from suspicions and animosities among labor leaders, and in part from natural differences of opinion on questions of fundamental economic and political policy. Various efforts to lay the foundations of a genuine labor party have been made and have successively failed.

In 1931, however, the principal proletarian groups merged their interests in a party known as *Kyocho-kaikan*, or All Japan Labor, Farm, and Masses Party. The extreme left and right elements, however, still remain outside. The platform includes such specific objectives as the following: the enfranchisement of all men and women over 18 years of age; the reform of the central government administration; the direct election of governors, mayors, and village heads; the abolition of secret diplomacy, the elimination of military armaments and the shortening of the term of military service; the right of international co-operation in the proletarian movement; the establishment of a complete system of indemnification for false arrest and accusation; the abolition of the "peace preservation" law of the police and all other similar regulations; the abolition of the existing pension system and

the establishment of old-age pensions; the institution of a seven-hour working day and the adoption of an equal scale of wages for men and women; the abolition of the Tenant Farmers' Arbitration Act; the reduction of prices on government monopoly products; an increase in inheritance, capital, interest, land, business profits, and income taxes; the prohibition of licensed vice; and the extension of the period of compulsory education to ten years. Whether this effort at the unification of the interests and objectives of the workers will prove more successful than earlier efforts remains to be seen.

Bolshevism has not found a very fertile soil in Japan. It is, in fact, confined chiefly to the so-called intellectuals, consisting mainly of university students. In a number of universities Bolshevik leaders are engaged not only in propaganda but also in the establishment of units trained in Bolshevik methods of organization. It is the view of some of the ablest leaders of the social movement in Japan, however, that there is little likelihood that Communism will gain rapid headway. The primary explanation lies in deeply rooted feelings and traditions.

Doctrines which preach the overthrow of the government by violent revolution inevitably meet with resistance among a population in which reverence for the Emperor is almost universal. Similarly, the strength of family ties and traditions and the fundamental respect and even reverence accorded to elders and ancestors make for conservatism and the preservation of established ways of life. For these reasons it is felt by many that labor and social evolution is more likely to proceed in future along lines forecast by the co-operative movement or through the extension of public ownership and control to a widening range of economic activities.

CHAPTER XX

THE EXPANSION OF POPULATION

Detailed discussion of the growth of population in Japan has been reserved to this late place in our analysis in order that it may be studied in proper perspective, that is, in relation to the economic expansion that has taken place since the beginning of the modern era. For, as we shall see, it has been the economic revolution that has made possible a virtual doubling of population during the past 60 years. As a background for the discussion of the population growth since 1870, we present a brief summary with reference to the population situation in former times.

I. THE POPULATION OF OLD JAPAN

While in the nature of the case reliable data are not available as to the population of the Japanese islands during the early centuries, a number of estimates have been made for different periods. In the seventh and eighth centuries, A. D., following the period of expansion that came with the extensive migration of Chinese and Koreans to Japan, the population has been variously estimated to have been from 5,000,000 to 8,000,000 or 9,000,000. In the sixteenth century, at the close of a long era of internecine strife, the number of inhabitants has been put by some writers as low as 5,000,000;¹ but Yosoburo Takekoshi, the distinguished economic historian, estimates, on the basis of tax revenues paid in rice, that the population in 1553 must

¹ These estimates are given in an article prepared by T. Hasegawa, director of the General Bureau of Statistics, and published under the title, *Population Du Japon Depuis 1872*, p. 15.

have been approximately 13,000,000.² The same writer estimates that at the end of the fifteenth century Kyoto, then the capital city, had a population of approximately 1,300,000.³

Since early in the eighteenth century the data are much more reliable. Beginning with the year 1721, population figures were compiled practically every sixth year until 1846. The number of people and houses in every village, town, and county was calculated with the co-operation of the temple priests who maintained registration for religious purposes. The recording was in many respects defective and there were numerous omissions. For example, court nobles and the *samurai* and their subordinates were not included, and sometimes the inhabitants of Ezo and the Riukiu Islands were omitted. It was, moreover, left to local option whether children under 15 years of age should be counted; and it appears that in some fiefs all over one year of age were counted, while in others the counting began at two, three, or five years. Accordingly, the total population, as calculated, is clearly understated, Japanese scholars estimating that this understatement probably amounts to something like 10 per cent. The figures for each so-called census between 1721 and 1846 are given in Table 83, page 622. The approximate trend by 20-year periods is shown in the chart on page 386.

As the estimate given above for 1553 and the first census figure of 1721 indicate, the first century of peace that followed the establishment of the Tokugawa shogunate in 1603 apparently witnessed a rapid increase in population. During the next 100 years, however, the population remained practically stationary.

² *The Economic Aspects of the History of the Civilization of Japan*, Vol. I, p. 254.

³ *Ibid.*, p. 256

As the chart shows, there was no increase from about 1720 to 1820, and there was an actual decline in the latter part of the eighteenth century. There was a slight increase, however, from about 1800 to 1830, after which a new decrease ensued. In the last 25 years of the Tokugawa period it is known that there was some increase in population; but the sharp jump shown by the chart is largely to be accounted for by the more complete population data which were assembled by the new government.

The stationary population following 1720 must be primarily attributed to the inadequacy of natural resources—under the economic organization then existing—to support a larger population. As we have seen in Chapter XVIII the condition of the masses of the people was utterly deplorable, with starvation a constant menace. Since peace prevailed throughout the Tokugawa era the casualties of war did not serve as a check upon population increase. While famine and accompanying pestilences played an important rôle in restricting the growth of population, the practices of abortion and infanticide were almost universal.

The Japanese word for infanticide, *mabiku*, means thinning, and we are told that the rank and file of people, in the big cities and in the country alike, "thought no more seriously of infanticide than of rooting out vegetables or herbs. . . . In Kyushu there was a custom to kill two of five children born to their parents; in Tosa Province one boy and two girls were considered a maximum number of children to be brought up in one family. In some other districts practically all the babies whose births were reported to the local authorities were boys. Again, in Hyuga Province, only the first-born was allowed to live, all

other babies being killed as soon as they were born." ⁴ By penalties, rewards, and educational propaganda, the shogunate endeavored to prevent the restriction of the growth of population but without success. The harsh law of economic necessity governed.

II. THE GROWTH OF POPULATION SINCE 1874

It will be seen from the chart on page 386 that the increase of population has proceeded at an accelerating pace. In the first decade of the Meiji era, that is, from 1870 to 1880, the increase was only about 5 per cent. In the eighties, it was somewhat more rapid, amounting to approximately 7.6 per cent. In the next decade it was approximately 10 per cent; between 1900 and 1910 it was about 12 per cent; between 1910 and 1920 it was nearly 13 per cent; while in the decade 1920 to 1930 it was about 18 per cent. Expressing this growth in terms of the increase per thousand of population, we find that the increase prior to 1895 typically ranged from 5 to 9 per thousand; from 1895 to 1920 it averaged about 10; and since 1920 it has averaged approximately 13 per thousand, reaching a high of 14.5 per thousand in 1928.

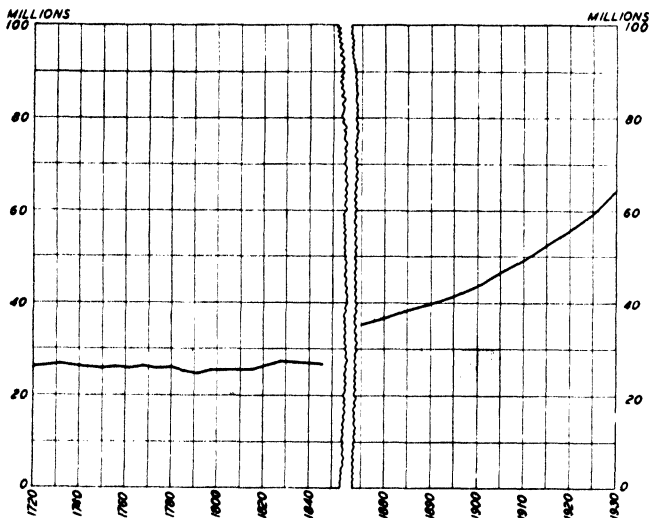
It will be seen that this increase of population roughly parallels the growth of the country economically. It was relatively slow in the first two decades of the Meiji era, then more rapid as industrialization got under way, following first the Chino-Japanese and then the Russo-Japanese War, and still more rapid during the expansion era that began in 1915. The slowing down of economic growth since 1926 has not, however, been accompanied by a decline in the rate of

⁴ Honjo, E., *The Population and Its Problems in the Tokugawa Era*, XIX* Session De L'Institut International de Statistique, Tokyo, 1930.

increase of population; on the contrary, the line of growth has again moved upward.

In most western countries such increase in population as has occurred in recent years has been primarily due to a decrease in the death rate; for birth rates, generally speaking, are low and declining. But

GROWTH OF POPULATION, JAPAN PROPER, 1721-1930 *



* For the data on which this diagram is based see Tables 83 and 84, pp. 622-24.

in Japan, the situation is different. According to the official figures, the number of births per thousand of the population in the period 1874-1883 was 25; whereas in recent years it has averaged about 34. But in the light of what is known about population tendencies, in general, the extremely low birth rate for the earlier years is, it would seem, open to serious question. It is probable that birth registration methods were considerably less effective then than

now, and it may accordingly be doubted whether there has been any actual increase in the birth rate.

The official figures also indicate an increase in the death rate since the early days of the Meiji era—from 18 per thousand in the period 1874–1883 to 23 per thousand in 1919–1923. In view of the improvements in economic and social conditions and in sanitation and medical science, it does not seem possible, however, that the death rate could have increased during the

BIRTH AND DEATH RATES, 1918–1929
(Per thousand of population)

Year	Birth Rate	Death Rate	Excess of Births
1918.....	32.2	26.8*	5.4
1919.....	31.6	22.8	8.8
1920.....	36.2	23.4	10.8
1921.....	33.1	22.7	12.4
1922.....	34.2	22.3	11.9
1923.....	34.9	22.8	12.1
1924.....	33.8	21.2	12.6
1925.....	34.9	20.3	14.6
1926.....	34.8	19.2	15.6
1927.....	33.6	19.8	13.8
1928.....	34.4	19.9	14.5
1929.....	33.0	20.0	13.0

* Exceptionally high because of the influenza epidemic.

period mentioned. Rather, it would seem that the death registrations of the earlier years were seriously defective. Undoubtedly, the practice of infanticide continued for some years after the beginning of the modern era, and it is highly improbable that the children who did not live were registered either in the birth or in the death statistics.

In any event, it is the persistence of a very high birth rate throughout the modern era which is primarily responsible for the remarkable growth of population. During recent years, however, a declining

death rate has also clearly played an important part. The annual birth and death rates since the World War are shown by the table on page 387.

The increase in population in the colonies has also been extremely rapid. The following table shows their population growth during the last ten years; for purposes of comparison the figures for Japan proper and for the entire Empire are also included.

It will be seen from the table that the population has increased even more rapidly in the colonies than

THE GROWTH OF POPULATION, JAPANESE EMPIRE, 1920-1930

Classification	1920	1925	1930	Per- centage Increase 1920-30	Density per Square Mile 1930
Chosen.....	17,264,119	19,522,945	21,058,000	22.0	247.1
Taiwan.....	3,655,308	3,993,408	4,594,000	25.7	330.8
Karafuto.....	105,899	203,754	295,000	178.6	21.2
Japan proper....	55,963,053	59,736,822	64,448,000	15.1	437.4
Japanese Empire.	76,988,379	83,456,929	90,395,000	17.4	347.4

in Japan proper. Although less rich in natural resources, Taiwan and Chosen have a population density comparable to that of the Japanese islands. While the population of Karafuto has increased rapidly, owing largely to immigration, this island is still sparsely settled. While a continued increase in population is to be expected, the extremely rigorous climate and the restricted resources militate strongly against a density comparable to that in islands farther south. Moreover, since the area is only 13,929 square miles, the island is in any event incapable of supporting any considerable population.

Since pre-war years there has apparently been some decline in the fecundity of Japanese women, and the

marriage age is also becoming later. The following table shows the number of births per 1,000 married women between the ages of 15 and 44 years at intervals beginning with 1903: ⁵

Year	Births per 1,000 Married Women	Index Number
1903.....	269.1	100.0
1908.....	284.7	105.8
1913.....	283.0	105.2
1918.....	272.1	101.1
1925.....	248.4	92.3

A movement for birth control is also gaining headway. The question is frequently discussed in public, and there is a magazine devoted to the subject. The problem has been given consideration by a government commission on food and population, and city officials of Tokyo have recently sponsored investigations regarding the feasibility of introducing the practice of birth control among the masses of the people. The dissemination of birth control propaganda is, however, illegal, and it is opposed by the Emperor; hence the movement develops but slowly.

It will be of interest now to compare the recent growth of population in Japan with that in other countries. The table on page 390 shows the excess of births over deaths from 1920 to 1929 inclusive in a number of selected countries.

The birth rate is much higher in Japan than in any of the other countries selected, and nearly double that of France and Great Britain. Notwithstanding the high death rate, the excess of births is substantially greater in Japan than in Italy, and very much greater than in other countries of Western Europe. Dr. Robert

⁵ Compiled for the writer by Dr. Shiroshi Nasu of Tokyo Imperial University.

R. Kuczynski, in connection with his studies of the balance of births and deaths in the leading countries of the world, has computed fertility rates for Japan for the period 1921-25. He finds that according to fertility rates then prevailing an average of five children would be born to each woman passing through the child-bearing age. The rate in Japan is now apparently exceeded only by Russia.

POPULATION INCREASE IN SELECTED COUNTRIES, 1920-1929 *
(Per thousand of population)

Country	Average Birth Rate	Average Death Rate	Excess of Births
Japan	34.5	21.4	13.1
Italy	28.2	16.8	11.4
United States.....	21.7	12.0	9.7
Germany.....	21.0	12.9	8.1
Great Britain.....	19.6	12.4	7.2
France.....	19.2	17.4	1.8

* Data for the United States were furnished by the Bureau of the Census of the U. S. Department of Commerce. The sources of those for the other countries are as follows: prior to 1929, *International Statistical Year Book* for 1926 and 1929; for 1929, Istituto Centrale di Statistica del Regno D'Italia, *Notizario Demografico*.

III. POSSIBILITIES OF EMIGRATION

Japanese emigration has long been an issue of acute international importance. Migration, either to North and South America, to Australia, to the Philippine Islands, and to the adjoining mainland of Asia, has long appeared to the Japanese a natural solution of the problem of population congestion. Moreover, Taiwan, Korea, Karafuto, and Kwantung have been looked upon as important possible outlets for Japanese population.

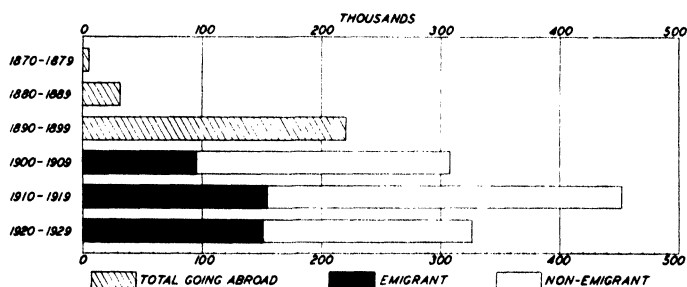
As a preliminary to the discussion of emigration possibilities in the future, it is necessary to present

the facts as to Japanese emigration hitherto. The accompanying chart shows the number of Japanese emigrants by ten-year periods from 1870 to 1929. Prior to 1900 the number of those going abroad for temporary sojourn is not shown separately, but after 1900 the data are divided between emigrants and non-emigrants.⁶

The largest number of emigrants for a ten-year period was 155,000. The maximum was reached in 1917 and 1918, when the emigration amounted to

JAPANESE GOING ABROAD, 1870-1929

(By ten-year periods)



slightly more than 23,000 each year. The total emigration, since the restrictions on foreign travel were removed at the beginning of the Meiji era (including the non-emigrants up to 1900), aggregated 664,674. The total for the 60-year period is only about two-thirds of the annual increase of population in recent years.

The chart on page 393 shows the geographic distribution of Japanese residing abroad in 1929. Of the total, amounting to 795,018, approximately 62 per cent are in Manchuria, the United States, and Hawaii.

⁶ The data presented in this section are taken from Japanese Department of Foreign Affairs, Commercial Bureau, *Statistics of Japanese Going and Residing Abroad*, Tokyo, 1930.

GEOGRAPHIC DISTRIBUTION OF JAPANESE RESIDING ABROAD, 1904-1929 *
 (Year ending June 30)

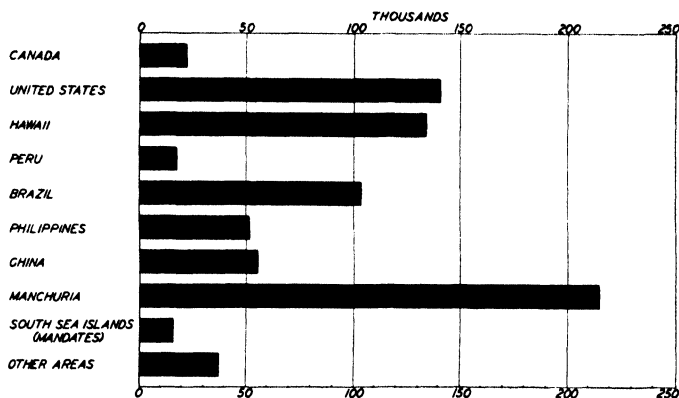
Country	1904		1914		1920		1923		1926		1929	
	Number	Per-centage of Total	Number	Per-centage of Total	Number	Per-centage of Total	Number	Per-centage of Total	Number	Per-centage of Total	Number	Per-centage of Total
Continental United States	48,354	34.9	80,723	22.5	125,476	23.2	131,393	22.6	133,605	20.8	140,945	17.7
Canada.....	3,838	2.8	11,959	3.3	17,668	3.3	19,729	3.4	19,885	3.1	22,664	2.9
Brazil.....	5	—	15,462	4.3	33,456	6.2	37,558	6.5	55,481	8.8	103,166	13.0
Peru.....	1,486	1.1	5,381	1.5	5,910	1.1	9,440	1.6	11,787	1.8	18,041	2.3
Hawaii.....	65,008	46.9	90,808	25.3	108,109	20.0	118,832	20.4	127,951	20.0	134,042	16.9
Philippine Islands (In-cluding Guam).....	2,652	1.9	5,298	1.6	9,337	1.7	7,587	1.3	10,124	1.6	51,772	6.5
China.....	7,399	5.3	21,662	6.0	54,544	10.0	48,387	8.3	48,961	7.6	55,708	7.0
Manchuria.....	1,151	0.8	100,294	28.0	150,465	27.8	172,690	29.7	191,656	29.9	215,009	27.0
Mandated islands.....	—	—	—	—	2,303	0.4	3,958	0.7	7,718	1.2	16,021	2.0
Other areas.....	8,698	6.3	27,124	7.6	34,516	6.3	32,076	5.5	32,931	5.2	37,650	4.7
Total.....	138,591	100.0	358,711	100.0	541,784	100.0	581,650	100.0	640,099	100.0	795,018	100.0

* Japanese Department of Foreign Affairs, Commercial Bureau, *Statistics of Japanese Going and Residing Abroad*, Tokyo, 1930.

The trend of emigration is shown by the table on page 392, which gives the distribution of Japanese residing abroad over a period of years. It will be borne in mind that the figures include temporary residents in foreign countries.

Over the period as a whole the percentage residing in the United States and Hawaii has steadily decreased. Brazil shows the most rapid percentage increase and the number residing there has increased steadily since

GEOGRAPHIC DISTRIBUTION OF JAPANESE RESIDING ABROAD, 1929



1925. The number going to Peru is likewise increasing, though the total residing there is still small. The number in the Philippines has also increased very markedly during the last few years, while the number living in China has increased only a little during the last decade.

The increased emigration to Brazil prior to the economic collapse of 1929 was promoted by two factors. The first was a labor shortage in Brazil, resulting from the emigration restriction policy of the Italian government. The second was the recent opening of the Amazon region to settlement. As yet, however, only

a few hundreds of Japanese colonists have availed themselves of this opportunity, and it is too early to tell whether they can adapt themselves to the climatic conditions of the Amazon region. It is of interest to compare the number of Japanese residents in Brazil with that of certain other countries. As against a little over 100,000 Japanese, Italians number 1,475,000; Portuguese, 1,250,000; Spaniards, 574,000; Germans, 194,500; Russians, 110,700; Austrians, 90,000; and Turks and Arabs, 77,500.⁷

While Manchuria has afforded the largest outlet for Japanese emigration, the number of Japanese residents in Manchuria in 1929 was only about 215,000 out of a population of something like 30,000,000. Moreover, as the table on page 392 indicates, the number migrating to Manchuria has been increasing but slowly in recent years. The hope that the Japanese once entertained of finding a really important outlet for population in this area has been definitely abandoned. Where thousands of Japanese settle in Manchuria the Chinese move in by hundreds of thousands. In fact, the migration into Manchuria has been as high as a million a year, of which the Japanese account for only a few thousands. Moreover, nearly 97 per cent of the Japanese are in South Manchuria, that is, in Kwantung, the Railway zone, and the consular jurisdiction areas. The number in Manchuria proper is thus wholly negligible. Korean migration to Manchuria has, however, been considerably larger, the number residing there aggregating in July, 1928, about 893,000. Of this total about 400,000 are located in North Manchuria.⁸

Notwithstanding the efforts that have been made by the Japanese government to promote emigration, little

⁷ Reid, William A., "The Immigration Situation in Latin America," *Pan American Union Bulletin*, March, 1931.

⁸ *Manchurian and Mongolian Year Book*, 1929, pp. 15-17.

success has been attained. The number who went abroad annually, even before immigration restriction laws were passed in other countries, constituted a negligible proportion of the increase in population. For example, in the decade of largest migration, 1910-1919, the total migration amounted to 155,000, as compared with a population increase of 5,849,000. The difficulty of the problem is indicated by the fact that the rate of population increase averages about one every 15 seconds (excess of births over deaths), and that if the entire Japanese merchant marine were converted to transports and devoted exclusively to the carrying of Japanese emigrants overseas, that is, to other countries than the nearby Asiatic mainland, it would not be adequate to carry the increase away from the islands.

There remains to be considered the possibility of the colonies as outlets for Japanese population. The number of Japanese inhabitants in Taiwan in 1928 was 211,202; in Chosen, 469,043; in Karafuto, 238,235; in the mandated islands, 16,202.⁹ As an offset there has been a considerable reverse migration from Chosen to Japan proper. Census figures for 1930 are not available at this writing; but the census of 1920 shows 40,755 Koreans residing in Japan; while in 1928 the number of registered Koreans, "casual laborers," in six large Japanese cities was 18,675.¹⁰

The explanation of the lack of migration from Japan to the colonies and to other Asiatic territories is fundamentally economic in character. In these regions the standards of living are lower than in Japan. Just as American laborers on the Pacific coast could not meet

⁹ The figures for Karafuto and Nanyo include Koreans and Taiwanese.

¹⁰ Idei, Seishi, "The Unemployment Problem in Japan," *International Labor Review*, October, 1930, p. 510.

the competition of the Japanese, so the Japanese cannot meet the competition of Korean and Chinese labor. As cheaper currency, where free coinage prevails, will drive out the dearer money, so the cheaper workman, where freedom of movement exists, tends to drive out dearer labor.

IV. THE PRESSURE OF POPULATION

The remarkable economic expansion that Japan has undergone, particularly during the period from 1896 to 1926, has, as we have seen, made it possible for the islands to support a rapidly increasing population at rising standards of living. Viewed superficially, it would seem from this fact that Japan need not be seriously concerned about the population problem, at least for a good many years to come. A more careful appraisal of the situation, however, reveals the population problem as one of crucial importance.

In the first place, it is altogether improbable that Japan can maintain a rate of economic expansion within the next 20 years comparable to that of the last 20 years. We have seen that the World War served as a tremendous stimulus to industrial growth, and that in consequence of easy credit and high dividend policies and earthquake reconstruction activities the rapid expansion continued with but a short interruption until 1926. The repetition of such a combination of stimulating factors is clearly not to be expected.

Furthermore, the effects of an increasing population do not fully manifest themselves immediately. While, from the standpoint of mouths to feed and bodies to clothe, the results of an increase in population in a given year manifest themselves to an appreciable extent immediately, from the standpoint of the employment problem, the effects are delayed from 15 to 20 years. Concretely, those born in the period from 1890

to 1905 did not enter the labor market until the period 1906 to 1920, which fortunately was a period of accelerating expansion; those born between 1905 and 1910 typically reached the working age between the years 1921 and 1926—another boom period; but those born between 1910 and 1915 have been entering the labor market since 1926, and because of the slowing down of economic development which began in 1926, the employment problem has become increasingly difficult.

Looking forward, we know that as a result of the very rapid expansion of population between 1915 and 1930 there will be more new workers annually entering the labor market than has been the case at any period heretofore. Indeed, since the rate of increase has been the highest in the last five years, the employment problem will tend to become increasingly difficult. With the annual increase in population in the last five years averaging approximately 900,000, it is clear that, when making allowance for women workers, an increase in employment for something like 500,000 new workers will be required annually between 1940 and 1945. This is of course on the assumption that no change occurs in the average age at which workers pass out of the labor market and that there is no decrease in the percentage of the total population which seeks employment. This is a reasonable assumption under the conditions existing in Japan for there is an inevitable tendency for everyone to continue work as long as possible with a view to eking out the family budget. If, under the stress of competition, older workers are discharged prematurely in order to make places for the oncoming generation, the unemployment and social problem is in no wise solved.

Those who contend that the population problem is not particularly serious in Japan have been too greatly impressed with the mere figures of production and

population growth. They have failed to appreciate the adventitious character of much of the economic expansion of the period from 1915 to 1926, and have apparently been unaware of the deferred effects of population increase. The truth is that the effects of the rapid increase in earlier years were obscured by the abnormal business expansion of the war and early post-war period; and that in the years which lie just ahead increasing numbers of people will annually come into a labor market which at the very best cannot be expected to expand at a rate comparable to that of the period from 1915 to 1926.

Indeed, the effects of this unfortunate conjuncture of factors have been in evidence during recent years. The boom era ceased in 1926, and although output continued to expand in quantity terms in succeeding years, the increase was apparently much less rapid than had been the case theretofore. It is not surprising, therefore, that the volume of unemployment, both among the wage-earning and salaried classes, has been steadily increasing since 1926.

The pressure of population manifests itself also in the maintenance of excessive numbers of workers on business payrolls. A congested working population inevitably results in "make work" policies on the part of labor, while humanitarian considerations, the paternalistic attitude of employers previously referred to, and the fear of the growth of radicalism if unemployment increases, have induced employers to maintain an army of unnecessary workers. Manufacturing establishments, commercial enterprises, and government offices alike are greatly overmanned. Two drivers are found in taxicabs, not because of the requirements of the taxicab but because of the pressing need for employment of some kind. Mention has been made in

a previous chapter of the extraordinary number of small shops and retail establishments resulting from the lack of employment opportunities in other lines.

The possibilities of finding employment in agriculture for this increasing population are, as we have seen in a preceding chapter, very limited. When economic pressure compels the utilization of the limited areas now untilled, employment may be provided for a few million people at the most. Moreover, such employment would be provided at the margin of cultivation, and would furnish subsistence at lower rather than the higher levels which are desired. The major possibility for absorbing the increasing population, already destined to come into the labor markets in the years that lie ahead, is through further industrialization, to the consideration of which Chapter XXIV is devoted.

PART IV

PROBLEMS AND POLICIES TODAY

CHAPTER XXI

THE MAINTENANCE OF FINANCIAL STABILITY

At the beginning of the modern era, Japanese statesmen, as we have seen, formulated a comprehensive plan of national development which was followed out over a period of years with remarkable success. Now that the nation again stands between two eras, so to speak, it is of paramount importance that an effort be made to take stock of the existing situation, to define clearly certain fundamental issues, and then to formulate in broad outlines a new national program for the future. This will be the purpose of the remaining chapters of this volume.

In a society that is financially organized and controlled the maintenance of financial equilibrium is fundamental to economic stability and progress. Hence we begin the discussion of present-day problems and policies with an analysis of the condition of Japan's finances. The analysis involves consideration of three closely interrelated phases of finance, namely: (1) currency and banking, (2) public finance, and (3) the international financial balance. Serious weakness in any of these divisions of the financial mechanism may result in general financial and economic instability. Protracted budget difficulties, a continued drain of specie abroad as a result of an excess of international outgo over income, or unsound credit policies and the issue of irredeemable currency will depreciate foreign exchanges and produce general financial instability. The currency and banking organization of Japan and the general trends in public finance and in

international financial relations over a period of years have been described in Part II. It is still necessary, however, to give more specific and detailed consideration to recent tendencies and to these interrelated financial problems as they will present themselves in the years that lie ahead.

I. THE GOLD STANDARD

One of the most acute economic and political issues of post-war Japan has been that of lifting the gold embargo and returning to the gold standard. As the diagram on page 292 indicates, depreciation of the exchange was slight during the period 1921 to 1923, ranging from about 2 to 4 per cent. In 1924, however, in consequence of the earthquake and the inflation which ensued, the yen gradually dropped to a low of 38.5 in December (par 49.85), averaging about 42 cents. It rose somewhat during 1925, but the average for the year was slightly less than 41 cents, a depreciation of approximately 18 per cent. In 1926 and 1927 it approached par, but fell again in 1928 and the first half of 1929 to a low of 44.05 cents, at which rate the depreciation amounted to about 11 per cent. The gold embargo was finally lifted in January, 1930, and the yen moved back to the pre-war rate.

The fall of exchange in 1924 and 1925 was, as we have seen, accompanied by very active business, while the gradual rise in the exchange in 1926 and 1927 came at a time of financial and economic difficulty. The rise to par in January, 1930, moreover, coincided with the beginning of the great depression. It is not surprising, therefore, that the policy of raising the value of the yen should have been open to serious attack. It has been the conviction of important sections of the business community that the rise of the yen has been

primarily responsible for the business and financial difficulties of recent years. On the other hand, those who favored the return to par believed that such an act would strengthen the credit of the country abroad and that the resulting deflation would serve as a purgative to the economic and financial system and would establish a sound basis for future development.

There were three possible ways in which this problem might have been handled. The first was to let the exchange drift; the second was to stabilize the yen at a new, lower level; and the third was to stabilize at the pre-war parity with the dollar. In analyzing the issues involved we must consider first the economic consequences of allowing the exchange to drift. The experience of many countries during the course of the last 200 years shows conclusively that, in the early stages of monetary depreciation and the accompanying rise of prices, business activity is stimulated. But this history also demonstrates conclusively that an enduring prosperity cannot be built upon a policy of fluctuating exchange or continuous monetary inflation, with the exchange steadily going lower. Experience has shown again and again that, after a brief interval of artificially stimulated activity, progressive disintegration of the entire financial and economic structure occurs. Inflation is an opiate to the effects of which the economic body eventually succumbs.

The second alternative—stabilization at a lower level—is, however, another matter. In many countries, following a period of depreciation, the currency has, in fact, been stabilized at levels below the rates formerly prevailing. The French stabilization in 1927 at approximately 20 per cent of the pre-war value exerted a great influence upon Japanese thought. It has not unnaturally been assumed that the comparative

prosperity of France in recent years has been primarily the result of stabilization at a low level, and that had Japan been willing to stabilize at something like 40 cents she would also have been able to escape economic difficulties of recent years. In this connection it should be noted, however, that the rise in the value of the yen was very much less than the rise in the value of the franc prior to its stabilization. In January, 1926, the franc stood at 3.77 cents; in July at 2.47; and in December at 3.95, the level at which stabilization was finally effected. This is a rise of more than 50 per cent, as compared with approximately 10 per cent in the case of the yen. Moreover, at the lowest annual rate (in 1925), the yen showed a depreciation of only about 18 per cent.

The stabilization of exchange at a lower level can, in any event, have but temporary advantages. For a time foreign currency will buy more commodities within the country of depreciated exchange, while on the other hand the currency of that country will buy a smaller quantity of foreign goods; exports cost less and hence tend to be stimulated, while imports cost more and thus tend to be curtailed. However, the higher costs of imported goods, particularly where they consist of foodstuffs and raw materials, gradually result in higher internal prices and rising wages. These wage and price readjustments serve in due course to eliminate the differential and to establish a new equilibrium. If this were not true any nation could strengthen its position at any time by the mere process of lowering the value of its currency—that is, provided it were not stalemated by similar moves on the part of other countries.

In cases where extreme depreciation of the currency has continued over several years and where business and financial relations have become adjusted to a

greatly depreciated monetary unit, a return to the former par of exchange is seldom possible or desirable. But in the case of Japan stabilization at the pre-war level was undoubtedly wise. The rise in value, as we have seen, was comparatively slight, even when measured from the low level of 1925. Moreover, the trade figures do not indicate that exports were restricted or that imports were stimulated by the rise in the value of the yen (see page 417 below). The real misfortune was that the gold embargo was not lifted in 1922 or 1923, when the return to the old parity could have been accomplished with a minimum of price readjustment and at a time when large bank balances abroad eliminated all possibility of a drain of gold from the country.

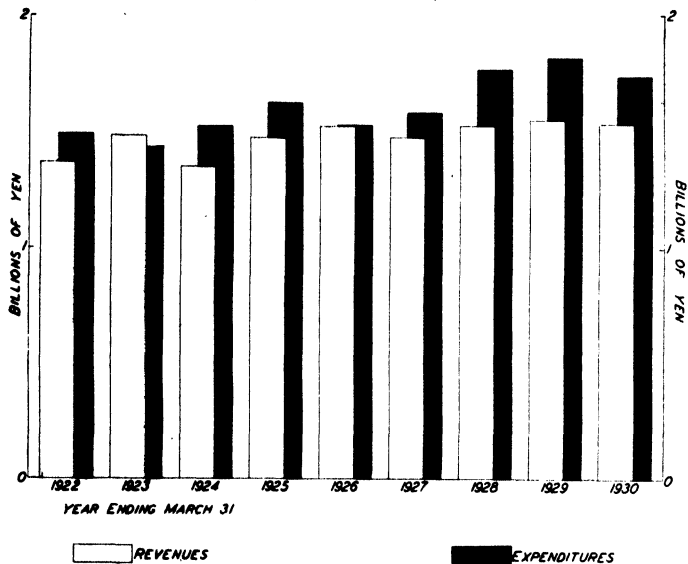
Now that stabilization at the old level is an accomplished fact, it would be a genuine misfortune if conditions were again to be unsettled by an attempt to reduce the value of the yen. Such a policy would mean a loss of confidence in financial circles at home, an impairment of the country's international credit position, and increased difficulties in maintaining permanent financial stability. Vacillation would be the worst possible policy.

II. THE PROSPECT FOR FISCAL STABILITY

In order to appraise the possibilities of maintaining a balanced national government budget it is necessary to study in some detail the trend of revenues and expenditures during recent years. For the purpose in hand, we need to consider only the revenue and expenditure items of the so-called general account. The diagram on page 408 shows the trend of non-borrowed revenues and expenditures for the fiscal years 1921-22 to 1929-30 inclusive.

It will be seen that the trend has been decidedly unfavorable. The deficit has been at the maximum during the last three years. The fiscal year 1929-30, it will be borne in mind, ended on March 31, before the depression had been long under way.

TREND OF REVENUES AND EXPENDITURES OF NATIONAL GOVERNMENT, 1922-1930 *
(General account)



* For data on which diagram is based, see Chap. XI, p. 208.

The trend of revenue from the principal sources of income for the fiscal years 1921-22 to 1928-29 is shown by the table on page 409.¹

The most significant fact to be drawn from this table is that all of the most important sources of income, except the income tax, have shown a steady

¹ The final accounts of the classified revenues and expenditures for 1929-30 were not available at the time of writing.

SOURCES OF GOVERNMENT REVENUE, 1922-1929.^a
(In thousands of yen, for fiscal year ending March 31)

Source	1922	1923	1924	1925	1926	1927	1928	1929
STAMP DUTIES AND TOTAL TAXES.								
Excise on liquors.....	872,180	983,259	873,591	979,958	986,338	969,327	980,107	1,002,488
Income tax.....	176,086	222,585	221,497	221,577	212,639	216,584	242,037	235,750
Customs duties.....	200,939	229,132	163,846	209,993	234,972	209,578	215,070	206,742
Sugar excise.....	100,941	108,045	89,310	119,638	111,161	150,612	140,600	150,944
Taxes on business, profits, and interest ^b	54,966	72,905	64,754	80,200	76,726	82,439	79,285	83,216
Land tax.....	68,454	77,132	55,838	61,943	65,791	74,433	63,877	74,269
Excise on textile fabrics.....	74,131	74,326	73,134	71,970	74,614	68,728	67,577	67,822
Inheritance tax.....	61,737	61,190	62,591	63,837	56,093	35,926	37,492	40,267
Other taxes.....	9,312	11,788	11,151	14,183	17,134	18,410	21,982	29,224
Stamp duties.....	39,286	39,302	45,082	43,897	45,678	30,289	31,653	27,775
Stamp duties.....	86,328	86,855	86,388	92,720	91,530	82,328	81,434	86,579
RECEIPTS FROM GOVERNMENT ENTERPRISES AND PROPERTIES.								
Profits on monopolies.....	333,784	360,185	342,686	383,137	427,613	451,414	471,492	474,194
Receipts from state forestry..	124,290	129,670	130,158	148,231	153,029	167,403	173,258	177,202
Receipts from postal, tele- graph, and telephone services.....	36,145	40,295	42,952	44,086	42,972	38,470	41,513	42,874
Other receipts.....	155,089	162,111	149,635	169,737	209,619	223,172	236,628	233,413
	18,260	28,109	19,941	21,083	21,993	22,369	20,093	20,705

^a Compiled by the Bank of Japan.

^b Until 1926 these taxes were combined under the name "business tax."

increase in yield. The excise on liquors increased slowly; the customs duties increased rapidly, following the tariff legislation of 1926; the sugar excise increased slowly; and the profits on monopolies and the receipts from postal, telegraph, and telephone services have expanded considerably. It should be remembered in considering these figures that between 1925 and 1929 the level of wholesale prices declined by approximately 18 per cent. The yield of the income tax, of the taxes on business profits and interest, and of the stamp duties has been practically stationary; while the yield of the land tax, the excise on textile fabrics, and miscellaneous other taxes steadily decreased.

Looking forward to the next few years, and assuming business activity to be at something like the level of 1928-29, what may be expected to be the trend of revenues? Is there any prospect that the budget deficit might be largely eliminated through an increase in revenues?

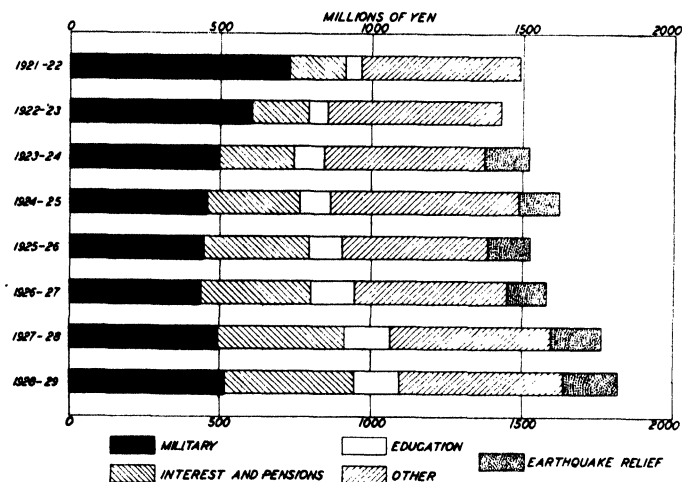
At the outset of this discussion it needs to be borne in mind that the substantial decline in the general level of prices since the end of the fiscal year 1929 will undoubtedly affect the yield of most of the sources of revenue. Hence, in terms of yen, revenues are likely to diminish. There is, however, an obvious partial offset to this in the fact that some of the government outlays will be reduced for the same reason. This is particularly true of many of the expenditures for military purposes and public works. It tends to be true also of the charges on account of the public debt, for, as money rates decline, it is usually possible to refund the government debt at lower rates of interest. For our present purposes, however, we shall not attempt to measure the relative effects of price changes upon the revenue and expenditure sides of the account.

On the basis of recent trends, and on the assumption of a return to something like normal conditions, the revenues from the liquor excise, from customs duties, and from government enterprises should continue to increase slowly. Since they are indirect in character and are levied upon articles of nearly universal consumption, the yield tends to increase in something like the same ratio as the increase in population. An increase in rates might produce some increase in revenues from the income tax and from the taxes on business profits and interest; but expansion here is certain to be very slow at best. There is distinctly more possibility of increase in the inheritance tax. It will be seen that the yield from the inheritance tax has been increasing rapidly, and this tendency is likely to continue, inasmuch as a greater proportion of those who made large fortunes during the boom period will presumably die in the decades of the thirties and forties than died in the decade of the twenties.

Attention should be directed to one potential source of revenue which is not now utilized by the Japanese government and which may prove to be of real significance in the future. While rates for telegraph, telephone, and postal services are fixed at a level which yields a net profit, railways, as we have seen, have not been operated with a view to producing revenue for the government. Railway passenger rates, it will be recalled, are relatively low as compared with those of other countries; and it has also been the policy to keep freight rates as low as possible, for the purpose of promoting economic activity. Now that the railroads have reached a stage in their development where expansion of mileage becomes annually less necessary, it may prove possible with increased economy in ad-

ministration to produce a net revenue without increasing rates.² In any event, a comparatively slight increase in passenger and freight rates would produce substantial revenues for the government. Such a policy would doubtless be highly unpopular; but it might nevertheless be resorted to as a measure of

TREND OF GOVERNMENT EXPENDITURES, 1922-1929^a
(General account)



^a For the detailed figures, see Table 53, p. 578.

necessity. It should be recalled in this connection that in some countries government operated railways do produce very substantial revenues.

We conclude from this analysis of the various sources of revenue, that the budget problem of the government is not likely to be solved primarily by an increase in revenues. While some sources of revenue will without doubt gradually yield more, there will be insistent pressure against tax increases. And, in fact,

² See discussion in Chap. XXIII.

it is sound economic policy to keep the taxation as low as possible. We must, therefore, look primarily to reductions in expenditures for the solution of the budget problem.

The trend of government expenditures during recent years is shown by the chart on the accompanying page. The striking fact revealed by this chart is the substantial decline in the expenditures for military purposes from the peak reached in the early post-war years. Included under this heading are the direct "military expenses" and "expenses of the Army and Navy Departments." (See Table 53, page 578.) The fiscal year 1921-22 was, in fact, the high point, when the direct military expenses amounted to 404,059,000 yen, and the expenses of the Army and Navy Departments to 326,409,000 yen. In the year 1926-27 these were down to 292,739,000 yen and 141,509,000 yen respectively—increasing slightly in the following two years. The decrease since 1921-22 is primarily the result of the Washington Arms Conference of 1921 and the general change in Japanese policy which manifested itself at that time.

The second striking fact shown by the diagram is the continuance of large outlays for earthquake relief. It will be seen that the amount was considerably larger in 1928-29 than in the years immediately following the earthquake. However, the earthquake relief rendered in the form of the delivery of government bonds in lieu of cash bulked much larger in the earlier years, amounting to 38,394,000 yen in the two years 1924-1926, as compared with 4,944,000 in the two years 1928-1930.³

³ It will be recalled, also, that there were large deliveries of bonds in 1927-28 and 1928-29 as compensation to banks for losses resulting from earthquake loans. See Table 54, p. 580.

What now are the possibilities for a reduction in expenditures? The first point to be noted is that the outlays for earthquake relief and reconstruction should show a steady reduction and be eventually eliminated. However, as the figures before us so clearly indicate, such outlays tend to persist over a period of many years.

The expenditures for education are relatively small and are, practically speaking, incapable of reduction. The same is true of pensions and annuities, which, as a matter of fact, have increased from 55,404,000 yen in 1920-21 to 142,047,000 yen in 1928-29. Interest and sinking fund on the national debt increased during the same period from 112,027,000 to 285,700,000, the result of course of the continued heavy budget deficits and of bond issues in lieu of cash during these years. There is some possibility of reducing this annual charge through refunding at lower rates of interest. Such an accomplishment will be possible, however, only if the budget can be brought more nearly into equilibrium, and provided the condition of the money market remains relatively easy for a period of two or three years. The expenditures shown on the diagram under the heading "other" are chiefly for general administrative purposes. These outlays have been fairly stationary in amount since 1921-22, rising from 471,450,000 yen in that year to 483,201,000 in 1928-29. While under the stress of a program of rigid economy, some reduction in the general administrative outlays may be made, the total reduction will doubtless prove of comparatively minor significance.

In the light of this analysis of the budget situation, it is easy to understand why the present administration is so insistent upon the further reductions of military expenditures. It is this situation which rendered acceptance by Japan of the London Naval Agreement a

vital necessity. It is this fiscal problem, moreover, which explains the continued insistence of the government that the savings resulting from the curtailment of naval outlays resulting from the London Agreement shall not be diverted to supplementary naval purposes. A balanced budget and tax reduction can be accomplished only if military outlays are curtailed.

III. THE INTERNATIONAL FINANCIAL BALANCE

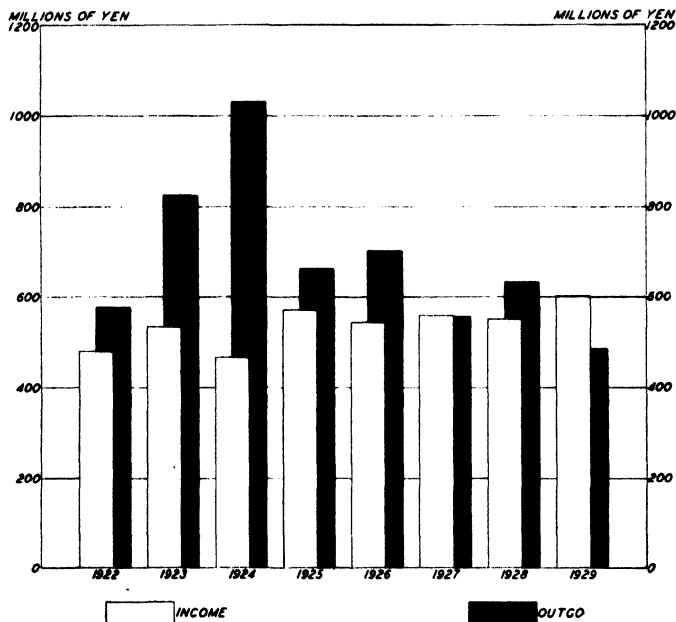
The restoration of the gold standard at the end of 1929 came at a time when the large bank balances abroad which had been built up in the war years had been almost completely exhausted by the continuous deficiency in international income during the post-war period. The lifting of the embargo upon gold exports and the resumption of the normal functioning of the foreign exchange mechanism naturally created, under the existing conditions, some uneasiness as to the stability of the yen. If the heavy adverse balance in the international accounts should continue, the resulting outflow of gold would possibly lead to loss in confidence and attending financial difficulties.

If we are to ascertain how this difficult transition period was safely passed and to appraise the possibilities of maintaining international equilibrium in the future, we must first review recent trends in the international balance of accounts. The chart on page 416 shows the income and outgo for all current international trade and financial operations from 1922 to the end of 1922. If this colonial foreign trade were included the situation would appear somewhat less favorable.

It will be seen that the heaviest excess of outgo over income came in the years 1923-1926, and that the three years 1927-1929 combined showed a virtual balance.

The change between 1928 and 1929 is accounted for by a reduction of the trade deficit to the extent of 156,738,000 yen and an increase in the net income from non-trading operations amounting to 19,596,000 yen. The reduction of the trade deficit is, therefore,

INTERNATIONAL INCOME AND OUTGO, 1922-1929 *



* See Appendix A, pp. 518 and 520, for data.

thus far chiefly responsible for the maintenance of equilibrium.

For the year 1930 the trade figures only are as yet available. The deficit amounted to 76,199,000 yen as compared with 67,621,000 for 1929.

It is pertinent to inquire whether this reduction in the trade deficit is attributable to factors that are likely to prove permanent. The import and export

figures, shown in thousands of yen, for the last four years are as follows:

Year	Imports	Exports	Excess of Imports
1927.....	2,179,153	1,992,317	186,836
1928.....	2,196,314	1,971,955	244,359
1929.....	2,216,240	2,148,618	67,621
1930.....	1,546,051	1,469,852	76,199

The increase in the import surplus in 1928 was due about equally to import expansion and to export decline. In 1929, as we have noted, the surplus was due chiefly to an increase in exports—the expansion being largely accounted for by increased foreign sales of cotton tissues and raw silk. It is evident, then, that the rising value of the yen in 1929 did not have the expected result of curtailing exports and stimulating imports. In 1930 exports declined by 678,766,000 yen and imports by 670,189,000. The restoration of the yen to par at the beginning of the year obviously did not produce any significant change in the relationship between exports and imports. On the other hand, the world depression resulted in a great decline in the aggregate of *both* exports and imports. Of the export decline raw silk accounts for 364,393,000 yen, and of the decrease in imports 210,925,000 is attributable to raw cotton.

A series of exceptional rice crops has been of substantial help in the recent foreign trade situation. In 1925 the net imports of rice amounted in value to 116,000,000 yen. In the three years 1924–1926 the excess of rice imports over exports averaged 78,404,000 yen. In the three years 1928–1930 the net imports were reduced to an average of 22,364,000, falling as low as 13,012,000 in 1930. Inasmuch as crop conditions vary so markedly from time to time, however,

the improvement in trade figures due to large rice crops cannot be regarded as permanent.

About all that one may conclude from this analysis of recent trade trends is that the stabilization of the yen at the old level has not thus far adversely affected exports and that the recent improvement in the trade balance is to a considerable degree attributable to factors which may not prove permanent in character. It is probable, particularly in view of expanding population and food requirements, that imports will continue to exceed exports during the next few years, though it is improbable that the import surplus will approach the level reached in 1924-1927, when the inflation period was at its height and exceptional quantities of materials were being imported for reconstruction purposes.

The so-called "invisible" or service items of international income and outgo have shown some improvement in recent years. The income and the outgo from sources other than trade and specie movements from 1922 to the end of 1929 have been as follows: ⁴

Year	Income	Outgo	Net Income
1922.....	479,900	325,300	154,600
1923.....	460,720	290,924	169,796
1924.....	538,564	356,606	181,958
1925.....	549,939	405,021	144,918
1926.....	509,236	369,222	140,014
1927.....	518,923	371,073	147,850
1928.....	550,577	389,310	161,267
1929.....	600,074	419,211	180,863

It will be seen that from 1925 on the total of the outgo items has remained practically stable, while there has been some increase in the income accounts. Among the individual items on the outgo side govern-

⁴ For detailed data see Appendix A, pp. 518 and 520.

ment payments abroad, as a result of the liquidation of foreign obligations, declined appreciably. The expenditures of Japanese tourists abroad, insurance payments, and the expenses incident to Japanese shipping all increased, though at a slow rate. Assuming that no new foreign loans are contracted, it would seem that over the next few years the aggregate of the outgo items may be expected to increase but slowly.⁵

On the income side the returns from ships and shipping⁶ and from foreigners' expenditures in Japan have increased appreciably. The income from insurance has increased but slightly, while interest, "profits and remittances," and the miscellaneous category have remained practically stationary. Government receipts from foreign deposits have declined somewhat as a result of the gradual liquidation of foreign holdings.

It is clear from this analysis that an increase in the excess of income over outgo will depend chiefly upon a possible increase in earnings from shipping and insurance and in receipts from foreign tourists. Vigorous efforts in both of these directions are being made on the part of both the Japanese government and private interests; and a gradual increase in the return from these sources is not improbable. The factor of dominant importance in the international balance, however, will continue to be the trade situation. Every effort must be made to expand exports relatively to imports. The analysis of industrial and trade possibilities in following chapters will, therefore, be definitely related to this problem.

In conclusion, there does not appear to be any imminent danger of financial instability. While the

⁵ *Ibid.*

⁶ The reader will bear in mind that these shipping earnings represent gross return. See discussion in Appendix A, p. 505.

depression and collapse of values have resulted in many losses and frozen credits, the reserves of the central bank are ample, and there is virtually no danger of a resort to irredeemable currency—certainly so long as the present government remains in power. The exchange situation presents some uncertainty, but any dangerous outflow of gold could doubtless be checked by short-term credits.

The primary source of weakness is the government budget; and the outcome of the economy program cannot be foreseen as long as the depression prevails. In Japan as elsewhere government revenues have declined greatly; and efforts at economy tend to be nullified by the inevitable pressure for government appropriations to aid distressed business and to relieve human misery. The “no-loan program” of the government, which was instituted as a part of the general program of financial rehabilitation, cannot under existing conditions be altogether adhered to.

The difficult budget situation does not, however, seriously threaten financial stability. There is no great volume of short-term government obligations outstanding and the extent of the public debt, as we saw in Chapter XI, is not such as to render further borrowing in the domestic market particularly difficult. Moreover, the large resources of the Treasury Deposits Bureau could be utilized to tide the treasury over any temporary financial strain that is likely to arise in the near future; and as a last resort the sinking fund provision could be temporarily suspended. On the whole, therefore, the financial problem does not appear to present insuperable difficulties.

CHAPTER XXII

CREDIT ORGANIZATION AND INTEREST RATES

While financial stability is a necessary foundation for a sound and effective economic organization, it is no more important than are a flexible and responsive banking and credit structure and an adequate supply of funds at favorable rates of interest. In Chapter IX we described the operations of the numerous types of institutions which together comprise the financial organization of Japan, but we postponed consideration of such important issues as the control of commercial credit, the supply of long-term (capital) funds, and the rates of interest at which both short and long-term funds can be borrowed.

I. COMMERCIAL CREDIT ORGANIZATION

The two questions to be considered under this heading are, first, whether the supply of short-term funds is adequate for seasonal and cyclical business requirements, and, second, whether machinery for the control of credit and prices is defective in comparison with that of other countries. The first can be answered summarily.

Although banking resources are less highly concentrated in Japan than in most other countries, the supply of loanable funds has always been reasonably adequate. The gold reserves of the system as a whole, including balances held abroad, have been ample, and both seasonal and cyclical expansion requirements have readily been met. In time of crisis, as in 1927, the resources of the Bank of Japan have been heavily drawn upon.

The danger has always been that loans would be extended too freely, rather than too conservatively. It is in this connection, of course, that the problem of credit control arises.

In most countries the central bank is in a position of strategic importance and, through the control of discount rates and the purchase and sale of acceptances and securities, is supposed to be in a position to exert a stabilizing influence on credit and prices and thus on general business conditions. As we found in Chapter IX, the Bank of Japan does not occupy so important a position in the general financial structure as do the central institutions of other leading countries. Many of the older banks do not have any deposits with the Bank of Japan, and, moreover, the discount or acceptance market is not well developed. For these reasons many students of banking have concluded that the credit system of Japan is peculiarly defective.

With the implications of this conclusion the writer is not in accord. To give adequate consideration to the issues here involved would carry this discussion too far afield. It must, therefore, suffice to point out that, notwithstanding the more fully developed credit organization of other countries, no significant success has anywhere been attained in the direction of stabilization. With the best developed discount market in the world, the strongly entrenched and strategically placed Bank of England has not been able to control credit, prices, or business conditions. Since the development of the Federal Reserve System in the United States, price and business fluctuations have been quite as great as under the former decentralized banking system. Moreover, the oscillations of business in Japan in the course of the last 40 years have, on the

whole, been less violent than those in countries where control is more highly concentrated. The prevalent assumption that by means of the discount rate or open market operations central banks can automatically control credit and business conditions finds little if any support in practical experience.¹

A greater concentration of the reserves of the country in the Bank of Japan is, nevertheless, desirable, because it would economize the use of gold and strengthen the position of the central bank as an emergency reservoir of credit. The further development of an acceptance market is also desirable, for such a market provides an important element of flexibility in the banking system as a whole. A change in the gold reserve requirements of the Bank of Japan would also be helpful. The present system, under which notes may be issued against gold, dollar for dollar, up to a maximum limit, fixed in 1899,—with no specific reserve requirements against deposits—is based on obsolete models and has long been in need of change. There should be fixed a minimum percentage reserve of gold and foreign exchange, computed against total outstanding notes and deposits combined.² The minimum might well be placed as low as 35 per cent.

The most serious weakness of the Japanese banking system is found in the close relations between banking and industry on the one hand, and banking and government on the other. This applies equally to short-term and to longer term credit operations. Disinterested credit analysis is a fundamental requirement of sound

¹ For further discussion of the efforts made by the Federal Reserve System, see the author's *Financial Organization of Society*, Chap. XXVI (3d edition).

² The American system, which provides a slightly different rate for notes than for deposits, has no practical significance.

banking practice; and such analysis is impossible where bankers make loans to concerns in which they themselves are vitally interested. In a similar way, too close relation between government policies and banking policies will at times lead to credit extension and credit support in cases which could not be justified on straight business or economic grounds.

II. THE SUPPLY OF LIQUID CAPITAL

The facts that capital accumulation did not begin in Japan until comparatively recent times and that the income of the masses of the people is very low suggest the possibility that economic development may be hampered for lack of liquid funds. In order to throw light on this problem, we present at this place an analysis showing the growth of savings in Japan, and the distribution of security holdings among the financial institutions of the country.

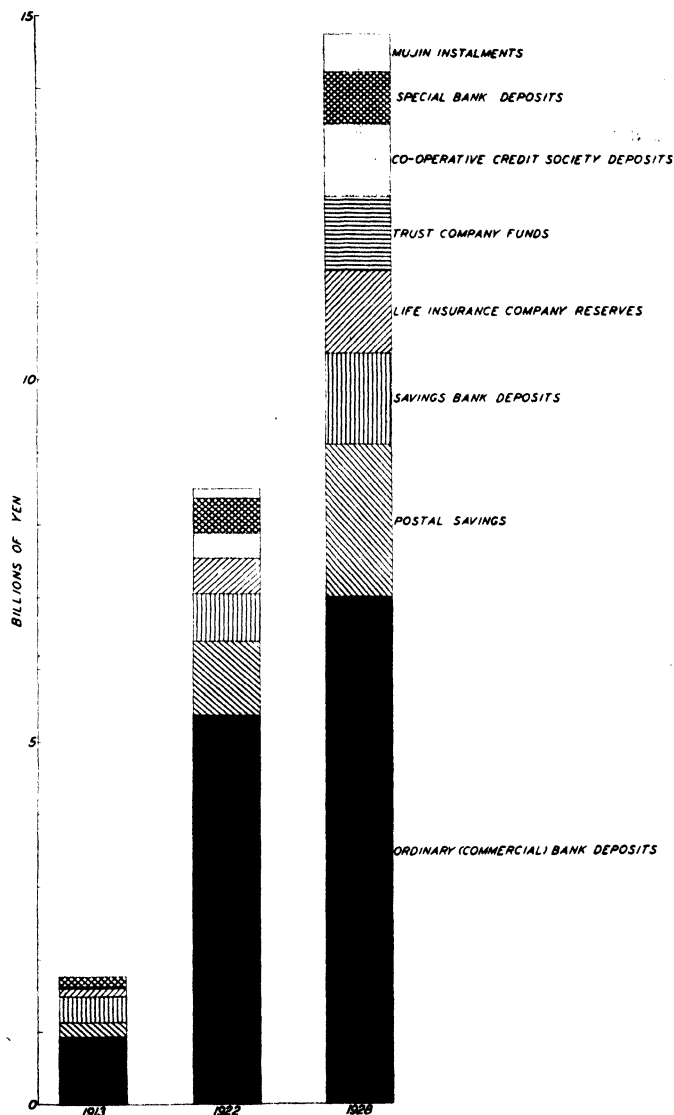
The accompanying diagram shows the amount of savings held by the different types of financial institutions for the years 1913, 1922, and 1928. The data have been especially compiled by the Bank of Japan.

It will be seen that commercial bank deposits, which include "time" and "special current" ³ but not ordinary checking deposits, comprised in 1928 as much as 47.5 per cent of the total. The commercial bank deposits comprised about 53 per cent of the total in 1913 and about 48 per cent in 1928.⁴ Trust company funds have increased with great rapidity since trust companies were first authorized in 1922. Perhaps the

³ See discussion, Chap. IX, p. 170.

⁴ This is exclusive of a small amount held by the Yokohama Specie Bank which, although a commercial bank, is classified here among the special banks.

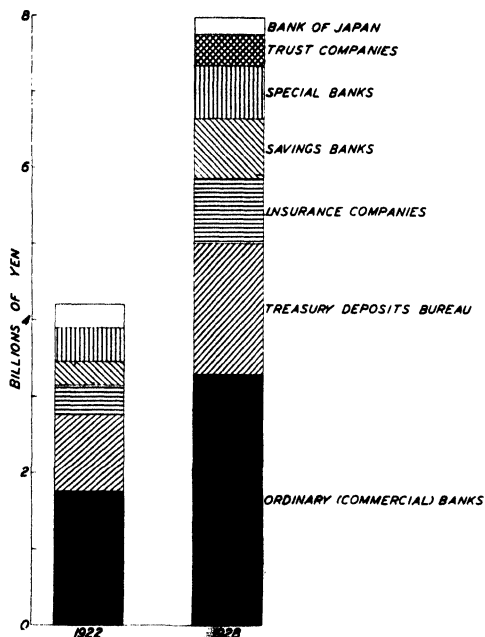
**GROWTH AND COMPOSITION OF SAVINGS FUND IN JAPAN PROPER,
1913, 1922, 1928 ^a**



^a For actual figures, see Table 85, p. 624.

most striking feature shown by the chart is the great growth in postal savings, which have been combined with post-office life insurance reserves, and in the de-

DISTRIBUTION OF SECURITIES AMONG PRINCIPAL GROUPS OF FINANCIAL INSTITUTIONS, 1922 AND 1928 *



* For the detailed figures, including the different classes of security holdings, see Table 86, p. 625. In 1928 the security holdings of the co-operative unions amounted to 63,270,000 yen and of the Central Bank of Co-operative Societies to 14,643,000 yen—as compared with 50,117,000 for the Hypothec Bank. The holdings of the Mujin companies in 1928 amounted to 764,000 yen.

posits in co-operative credit societies which consist almost entirely of savings of people on very small incomes.

The savings funds accumulated by financial institutions, including the time and special current deposits of the commercial banks, are primarily utilized for the purchase of government and corporate securities. Accordingly, it is of interest to view the problem of the capital market from the opposite angle, that is from the standpoint of the distribution of securities. The accompanying diagram shows the distribution of security holdings among the different types of financial institutions for the years 1922 and 1928.⁵ The reader will bear in mind that the postal savings deposits are handled by the Treasury Deposits Bureau.

The security investments of the commercial, or ordinary, banks are much larger than those of any other financial institution, amounting to approximately 40 per cent of the total. The Treasury Deposits Bureau occupies a strong second position; in fact the investments of this bureau exceed the combined holdings of savings banks and insurance companies.

The total amount of Japanese government and private securities outstanding at the end of the fiscal year 1927-28 was 23,503,840,000 yen. The difference between this figure and the amount held by the financial institutions, or 15,488,825,000, represents the total in the hands of Japanese investors and foreign investors. The holdings of the latter comprised 2,307,022,000 yen.⁶ The amount of foreign securities owned by Japanese citizens is not definitely known. The classification of the securities outstanding at the end of the fiscal year 1927-28 is given below.⁷ The figures repre-

⁵ Figures for 1913 are not included because some of them are not available.

⁶ See Appendix A, p. 495.

⁷ Compiled by the Bank of Japan.

sent face value in the case of bonds and the amount paid up in the case of shares.

	Yen
Government bonds.....	5,799,547,000
Local government bonds.....	2,050,382,000
Corporate debentures.....	4,453,745,000
Shares of stock.....	11,200,166,000

In addition to these securities, there is a large volume of mortgage indebtedness. A computation made by the Hypothec Bank estimated the amount outstanding at the end of 1922 at 4,130,273,000 yen, and at the end of 1927 at 4,885,546,000. Of this total, 2,493,615,000 yen represented agricultural mortgages and 2,391,931,000 yen other mortgages. These mortgages are in large part held by the mortgage banking institutions.

It is apparent from this analysis that the domestic supply of liquid capital has grown rapidly during the course of the last two decades. This has been true notwithstanding the fact that bond houses have not been developed—securities being distributed chiefly by the commercial banks—and that the range of stock market operations is comparatively restricted. An unusually large proportion of the total volume of outstanding securities is held by the financial institutions. The investments of the general public tend to be indirect in character, that is, in the form of postal and other savings deposits and insurance.

The important rôle played by commercial banks in the long-term capital market requires some further consideration. In the case of Japan the development of capitalistic enterprises would undoubtedly have been greatly hampered had not the commercial banking institutions been large purchasers of securities. According to traditional banking theory, particularly in Great Britain and the United States, commercial

banks should confine their loans to short-term commercial, or marketing purposes. The purchase of securities by a commercial bank is regarded as unsound practice, creating an unliquid condition of bank assets.

Space does not permit of any detailed consideration of this issue. It must suffice to point out that the practice of the Japanese banks in this connection is in conformity with that of the banks of other countries. Contrary to prevalent assumptions, the banks of the United States have always utilized a substantial proportion of their funds, directly and indirectly, for the development of fixed capital. The trend in all countries, even in Great Britain, has moreover been increasingly in this direction during the last 25 years.

The view that short-term commercial notes of customers are more liquid in time of financial strain than are collateral loans or bonds finds no support in practice. Indeed, commercial paper of customers is much less liquid than "listed" bonds; for the "valued customer" must be carried along while the bonds can be sold on the exchanges. With a well developed discount market, however, bank acceptances may also to some extent be liquidated. In time of crisis funds cannot be obtained by requiring the payment of loans; they can only be procured through the sale of assets in the market, or through borrowing from other financial institutions, particularly from the central banks.⁸

III. HIGH MONEY RATES

The prevailing high interest rates are a striking feature of the Japanese money market. These high rates are found in connection with all classes of loans

⁸ For an extended discussion of this problem, see the author's "Commercial Banking and Capital Formation," *Journal of Political Economy*, June, 1918.

and investments. Moreover, the rates paid on deposits by the various types of financial institutions are exceptionally high as measured by occidental standards. The essential facts as to interest rates are shown by the following data, which have been compiled from official sources by the Bank of Japan.

The official discount rates of the Bank of Japan from 1909 to 1930 ranged as follows: on collateral loans, from 5.11 per cent to 8.03 per cent,⁹ and on commercial bills, from 4.75 to 8.03 per cent. The discount rates charged by the member banks of the Tokyo Bankers Association ranged between 1909 and 1930 from 5.81 to 10.43 per cent; and the average for the ten years 1919 to 1928 inclusive was 8.94 per cent. The lowest yearly average for discount rates was 7.55 per cent in 1919, and the highest was 10.43 per cent in 1920. The interest rate on time loans ranged from 7.05 to 10.11 per cent, averaging 9.46 per cent during the ten years 1919 to 1928. In a period of business reaction, such as that of 1929-1931, the rates decline somewhat, but the fluctuations tend to be less than those in the United States.

The interest rates charged by the Hypothec Bank may be used to illustrate the situation with reference to "intermediate" loans. Interest on unsecured instalment loans to public bodies for the period between 1909 and 1930 has ranged from 6.5 to 7.6 per cent, while that on instalment loans secured by mortgages on land and other properties has ranged from 7 per cent to 8.8 per cent, the average rate from 1922 to 1929 having been about 8.5 per cent. Time loans of all classes have commanded from 7.2 to 8.1 per cent. The yearly average loan rates charged by all the

⁹ Japanese money rates are quoted per diem per 100 yen; and conversion to percentage per annum gives odd figures.

co-operative credit societies have ranged between 1909 and 1928 from 9.93 to 12.76 per cent.

The yields on bonds and corporate debentures are correspondingly high. From 1921 to 1930 the yield on government bonds ranged from 5.47 per cent to 5.98 per cent; on municipal bonds (8 classes) from 5.85 to 7.27 per cent; and on corporate debentures (20 classes) from 6.42 to 8.97 per cent.

Speaking generally, these loan rates run from 2 to 4 per cent above the rates for the same classes of loans in the United States. The disparity in the rates charged by commercial banks is the greatest.

Turning now from rates charged to borrowers to rates paid to depositors, we find a similar high level. The rates on time deposits, fixed by agreement among the Tokyo clearing-house banks, have ranged between 1909 and 1929 from 4 to 6.8 per cent—the average being above 5 per cent. Rates on current deposits have ranged from 1.46 to 4.02 per cent. The rates paid on postal savings deposits were fixed in March, 1906, at 5.04 per cent; in April, 1910, at 4.21; and in April, 1915, at 4.81. They stood at this high level until October, 1930, when they were reduced to 4.21 per cent. The deposit rates paid by the co-operative credit societies change annually, and have ranged between 1909 and 1928 from 5.91 to 6.51 per cent. The average deposit rates for all savings banks in Japan have run in the last nine years from 4.5 to 5.1 per cent. The “dividends” on trust funds allowed by trust companies have ranged since 1924 between 5.16 and 7.2 per cent.

It will be seen that the rates on savings deposits commonly run from 1.5 to 3 per cent higher than those paid on savings accounts in the United States. Moreover, the spread between deposit rates and loan rates

is somewhat greater in Japan than in the United States.

The reduction of interest rates should be made a primary objective in a program of reconstruction and expansion. The existing rates impose a severe handicap upon Japanese industry. Japanese companies, because of their relative youth, and also, as we shall see, because of the failure to build up ample surplus funds, are under the necessity of borrowing a large part of their working capital. High interest rates, therefore, constitute a very important element in the cost of production and serve as a material handicap to Japanese enterprise in meeting foreign competition.

The prevailing high level of rates does not appear to be due to fundamental economic conditions existing at present. They are rather a survival from the earlier years of the modern era when the country possessed no adequate supply of loanable funds. It will be recalled that, at the beginning of the Meiji era, Japan possessed no money market, and that the first loan floated by the national government was a foreign loan bearing an interest rate of 9 per cent. Throughout the first two or three decades the supply of capital remained so small that the cost of borrowing by both public and private enterprises was inevitably high. In the light of these very high loan rates, it was not surprising that those on savings deposits should also have been fixed at a high level. And, once these high rates, both on loans and on deposits, became habitual, the structure of rates was difficult to change.

In fact there exists a vicious circle through which it is not easy to break. How can rates on loans be materially reduced as long as rates on deposits remain high? And with time loans bearing 8 or 10 per cent interest, how can bond yields be expected to be as low

as 6 per cent? And if bonds yield 7 or 8 per cent, must not dividends be still higher in order to attract more speculative investments? To start the process of downward revision all along the line by reducing the rates on deposits also presents difficulties because of the competition for funds among the various types of financial institutions. The commercial banker cannot well reduce his rates on time deposits unless trust companies and savings banks do likewise. Moreover, the private savings banks cannot reduce their rates as long as those paid by the government on postal savings remain so high.

The government is in a position to take the lead in breaking through this circle by establishing substantially lower rates on postal savings deposits and on loans by the Bank of Japan. In fact, reductions of importance have been made since October, 1930, but both postal savings deposit and Bank of Japan loan rates are still high in comparison with similar rates in other countries. Rates on other types of deposits have also been reduced somewhat. The drastic deflation of the last two years makes the present a most propitious time for the establishment of substantially lower schedules.

If the interest on savings deposits generally should be reduced by something like 2 per cent, it is evident that there could be a corresponding reduction in the rates on loans without lessening the margin of profit of financial institutions. It should be possible, however, to make some reduction in loan rates even though no reduction were made in the rates on deposits. As we have already seen, the spread between these two is relatively wide in Japan. The earnings of banking institutions have been relatively large. The dividend rates of the five "big banks" for the period 1919-1929

average 13.15 per cent, and for the last three years 9.8 per cent. The average for all commercial banks from 1919 to 1928 was 8.35 per cent; though for the two years 1927 and 1928 (1929 figures are not available) the average was only 7 per cent.¹⁰ Given a return to normal conditions, it would seem that the rates on bank loans might be scaled somewhat without any serious effect upon the financial condition of the banks.

The question whether such a reduction in interest rates would not serve as a deterrent to saving on the part of the public, and thus result in more harm than good must, however, be raised. It is impossible here to submit any evidence with reference to this issue. It is the view of an increasing number of economists, however, that the aggregate volume of savings is not greatly affected by money rates. Some people might be inclined to save less if the interest rate on deposits were reduced from 5 to 4 per cent; but many others would feel that they must save more because larger savings would then be required to yield the same income from capital accumulations as before.

In this connection it should also be pointed out that a reduction in the rate of interest on postal savings and other deposits might tend to stimulate savings on the part of the public in the form of investments in securities. The investment market for high-grade bonds, as we have seen, has never been well developed in Japan, and this may be explained in part by the exceptionally high rates on savings accounts. A reduction of interest rates on deposits would make the alternative of bond investments relatively more attractive; and thus the income derived from savings would not necessarily be greatly reduced.

¹⁰ For figures see Table 87, p. 626.

In concluding this discussion attention must be given to the international aspects of the problem. If Japanese interest rates were lowered as suggested, might there not be a flow of capital out of Japan which would produce serious consequences? In countries where temporarily high interest rates have attracted a large volume of short-term credits from abroad, a decline in interest rates is promptly followed by an outgoing flow of funds—money seeking the markets where rates are highest. Our analysis of Japanese investments has revealed, however, that the Japanese short-term money market is comparatively isolated. There is no appreciable volume of short-term loans flowing in from foreign countries nor do the Japanese themselves invest largely in short-term credits abroad. The loans contracted by Japan are chiefly long-term obligations and the investments made by Japanese abroad are principally in the form of direct participation in foreign enterprises. If the flow of capital were to be affected, it would have to be, therefore, mainly in connection with long-term bond issues.

It is possible that if the interest rates were lowered, Japanese bond issues would be regarded by foreigners as relatively less attractive, and some of them might possibly be liquidated for this reason. But, on the other hand, it is not improbable that a general reduction in interest rates in Japan and a resulting rise in the price of outstanding bonds would be interpreted as evidence of a sounder credit situation and of an improved competitive position.

It remains to point out that a reduction in interest rates would also prove of great importance in helping to solve the difficult budget problem of the government. During the years of inflation when interest rates were at the highest government bonds not only bore a high

rate but they were usually marketed well below par. A lowering of the general level of interest rates would mean, after conversion operations were successfully completed, a reduction of perhaps one-fourth in the charges attributable to the public debt. Since these charges constitute over 15 per cent of the total expenditures of the national government, it will be seen that this reduction is of vital importance from the standpoint of public finance.

IV. CORPORATE FINANCIAL POLICIES

Closely related to the problem of interest rates are the dividend policies of corporations. It has been the general practice to maintain very high dividend schedules. The rapid development of corporate enterprise occurred, it will be recalled, during a period of extraordinary expansion; and it was natural that the stockholders should desire to participate to the fullest possible extent in the golden stream of profits. In the expectation that such earnings would continue indefinitely, corporations formed the habit of paying nearly everything out in dividends, rather than accumulating reserves. The amount of dividends paid during the war years in nearly every line of industry is almost unbelievable. The annual dividends for selected companies, compiled by the *Oriental Economist*, show such percentage rates as the following:

	1916	1917	1918	1919
Spinning companies.....	52.1	88.5	120.4	117.3
Paper mills.....	33.4	42.5	52.6	55.8
Flour mills.....	24.4	25.3	47.0	67.1
Mining companies.....	38.0	39.4	39.7	47.1
Sugar manufacturing companies....	25.9	57.7	44.8	60.6
Maritime companies.....	61.6	89.2	101.4	103.2

Many companies continued to pay rates of from 30 to 40 per cent in the post-war period, though, since

1927 the level has been materially reduced. The following table shows the dividends of all corporations in the leading divisions of economic activity from 1922 to 1928 inclusive.

It is the universal opinion of foreign business men familiar with Japanese conditions that such rates as these have not been economically justified. It is also conceded by Japanese bankers, business men, and

CORPORATE DIVIDENDS IN LEADING LINES OF ACTIVITIES,
1922-1928 *
(In percentages)

Year	Manufac- turing Industry	Electric Industry	Domestic Trade	Foreign Trade	Insur- ance
1922.....	8.6	9.0	5.0	2.5	15.3
1923.....	7.4	8.3	3.9	2.7	14.6
1924.....	7.6	8.8	4.2	2.7	13.4
1925.....	7.9	8.9	3.1	2.3	13.4
1926.....	7.5	8.9	3.1	3.1	13.5
1927.....	6.8	7.7	4.0	3.6	13.1
1928.....	7.1	8.3	4.7	4.0	13.6

* Japanese Department of Commerce and Industry, *Company Statistics*.

economists that the payment of such high dividends has been unwise—though appearing to be necessary as a practical matter, because of the insistence of voting stockholders. The policy has been unfortunate because dividends have been paid at the expense of adequate depreciation accounts and reserves. Available data do not permit any precise presentation of the facts as to depreciation and reserve accounts; but it is undoubtedly true that to a considerable extent dividend payments, particularly in recent years, have been made out of capital rather than out of real earnings. Indeed, cases have been cited to the writer in

which dividends were paid from the proceeds of bank loans.

Under the methods of financial accounting commonly employed, not only has insufficient provision been made for depreciation and reserves, but the accounts in general are commonly inadequate and confusing, and, according to reports, often positively misleading. So great have been the abuses and so lax have been the corporation laws pertaining to accounting practices, that the matter has recently been made the subject of careful study by an influential group of Japanese citizens. A bill for a new corporation law has been drafted by a committee of the Chamber of Commerce of Tokyo, numbering about 30, with the co-operation of four professors from Tokyo Imperial University, one justice of the Supreme Court, the Comptroller of the Currency, and the President of the Society of Chartered Accountants. This committee has given thorough consideration to such corporate practices as the following: (1) the payment of dividends out of capital; (2) the use of capital funds in stock market speculation; (3) the payment of large bonuses or rewards to directors and auditors; (4) the payment of immoderate dividends; (5) the misfeasance of directors and auditors; (6) unreasonable appreciation of assets; (7) close relation to political parties; (8) failure to provide reserve funds; and (9) inadequate depreciation accounts.

The economic results of such corporate policies are for the time being beneficial. They give to the receivers of dividends large profits, which are available for expenditure, or saving, and which tend to stimulate business activity. In the long run, however, such policies have very serious consequences. The failure to provide adequate reserve funds obviously means

heavy financial losses in time of depression. Of even greater importance is the failure to make adequate provision for depreciation; for this means that antiquated and obsolescent machinery must continue to be used long after it has ceased to be economical. Japanese industry is severely handicapped today because of the short-sighted financial policies that were pursued during the era of expansion.¹¹ Fortunately, there has been a growing recognition of this fact during the last two or three years, and a more efficient and prudent management may be expected in the future.

Great emphasis has been placed in this chapter upon the necessity of reducing the rate of interest, because of its relation to the problem of foreign competition. If Japan is to be successful in meeting foreign competition, in foreign as well as in her own markets, every effort must be made to reduce costs. A reduction in wages is undesirable in view of existing standards of living; and it would doubtless increase social and political unrest. The alternative of lowering costs by means of a reduction of interest rates, however, involves no direct labor difficulties and can be carried out successfully, provided government officials and private banking interests will work in co-operation toward this end.

¹¹ The machinery and equipment as originally installed in Japanese plants has also often been of more or less antiquated models. See Orchard, John E., *Japan's Economic Position*, pp. 245-48.

CHAPTER XXIII

THE CO-ORDINATION OF TRANSPORTATION DEVELOPMENT

Every important period of economic prosperity appears to be based in no small degree upon the rapid development of some particular part of a nation's economic equipment. For example, in the United States, in explanation of significant periods of expansion, economic historians refer to such events as the opening of the Mississippi Valley, the transportation era, the development of manufactures, and the growth of the automobile industry. In Japan, as we have seen, the periods of rapid growth have accompanied the opening of the country to foreign trade, the growth of transportation and of manufacturing following the wars with China and Russia, the foreign trade boom of the World War period, and the development of new manufacturing industries, public utility enterprises, and public works in the post-war periods.

If Japan is to provide employment for her rapidly increasing population, it will be necessary to utilize to the full every economic possibility that may exist. The two principal opportunities for further expansion appear to be in connection with the development of an efficient modern system of public highways and in the further industrialization of the country. The significance of an extensive system of public roads, properly co-ordinated with other forms of transportation, will be discussed in the present chapter, while the possibilities of further industrialization will be reserved for Chapter XXIV.

We found in the chapter devoted to transportation development that Japan now has an extensive railway transportation system, the trunk lines of which have been constructed chiefly by the government and the spur lines, or local feeders, by private enterprise. The public highways, on the other hand, we found to be on the whole primitive in character and entirely inadequate to the nation's needs. In fact, the progress noted in other lines of economic development is conspicuously absent in the case of public roads. Not only are there few hard surfaced highways, but the roads are of a heterogeneous character and there is no well co-ordinated system. The public roads, as we have seen, have been constructed under national, prefectural, and municipal auspices; and it is an interesting fact that, in a country where the national government has played in general so large a rôle in the development of the country, the number of national roads at the end of 1927 amounted to only 5,118 miles as compared with 55,498 miles of prefectural highways.¹

There is in this field of internal development, therefore, an opportunity of great economic significance to the country generally. The present time is, moreover, a particularly propitious one for planning not only a unified highway system, but also a co-ordinated general transportation policy. In the first place, it is an opportune time for considering highway development in conjunction with the further extension of railway lines. The main trunk and branch lines of the railway system have been pretty well developed; but large additional expenditures, both by the national government and by private enterprise, are being made annually for extensions into areas which have not hitherto had adequate transportation service. It is highly probable that many of these additional lines cannot be economically

¹ See table, Chap. V, p. 88.

justified in the light of prospective traffic, and that the money might much better be expended on highway construction. So long as the administrators of the railway system have no responsibility to consider the relationship of railways to other forms of transportation development, there will be an inevitable tendency to continue the indefinite extension of the railway net, without giving sufficient attention to the economic necessity therefor. In fact the restriction of further railway development in Japan is a matter of particular importance because the topography is such as to necessitate numerous tunnels and other costly engineering works.

Since Japan is still in the early stages of automobile and highway development, it is not too late to forestall the enormous losses which other countries have sustained for lack of a comprehensive co-ordinated national transportation policy. It may be recalled in this connection that in the United States nearly all of the interurban electric railways that were constructed a quarter of a century ago have become bankrupt because of changing transportation conditions, and that numerous spur or branch railway lines have been abandoned, while many others are no longer remunerative.

Japan is also in a sense fortunate in that no large amount of money has as yet been wasted upon indiscriminate highway development. It is, therefore, possible at the present juncture to plan a national system and also to utilize the most efficient and economical types of road construction. The truth is that a revolution in highway engineering has occurred in recent years and that Japan is in a position to profit from this experience and to construct a highway system at but a fraction of the cost that might have been incurred earlier.

The new processes of road building to which reference is here made involve the utilization of existing road-beds rather than a complete rebuilding of foundations. The typical American process with American roads involves the removal of the existing road-bed and the laying of a deep foundation either of crushed rock or concrete. This method has also been followed in Japan with the hard roads heretofore constructed.

The newer methods involve a very simple principle—that of utilizing existing road foundations and binding the surface by means of a material known as cold liquid emulsified asphalt. This material has been used for some 20 years, but it is only within the last few years that it has been perfected. In brief the process involves a thorough disc harrowing or scarifying of a gravel base and the application of a two-inch top of emulsified asphalt. The cost, where a road base exists is generally speaking something like a quarter of the cost of other road construction. It gives a hard, smooth, dust-free, waterproof, and non-skid surface. Moreover, the cost of maintenance is relatively low. It has already been proved successful in Europe and in a number of American states, particularly California, Idaho, and New Mexico.

Utilization of this method is particularly feasible in Japan. Most of the existing highways have been extremely well compacted as a result of many years of traffic. Some of the roads indeed are many hundreds of years old and these provide extraordinarily solid foundations. Even the local roads, as a result of numerous applications of gravel, typically have good foundations. Another advantage in a country of heavy rainfall is that the material can be applied in wet weather. Engineers estimate that at a cost of somewhere from 10,000 to 15,000 yen per mile Japanese

roads 18 feet in width could be constructed by this process. Except for the major trunk lines, a width as great as this is not required.

It goes without saying that the carrying out of a comprehensive program of road construction would cost a great deal of money. Fortunately, only a portion of the outlays would constitute a *net addition* to expenditures that would be made in any case. Large sums are appropriated each year by national, prefectural, and local governments for roads of miscellaneous character and high cost. If these resources were pooled and utilized as here suggested, they would go several times as far as would otherwise be the case. Moreover, if the further extension of the railways were restricted, the savings effected by the railway administration would render available large resources for highway development.

If the program were to be expeditiously executed, it would, however, without doubt require the utilization of government credit. Loans for such a productive development would, however, be economically justified. The case is similar to that of railway and public utility development, though unless tolls were charged the public treasury could not expect to receive direct returns from the enterprise—the benefits being entirely indirect in character.

A number of economic advantages, other than the employment afforded, would result from the development of an efficient system of public roads. In the first place, it would directly increase economic efficiency in general. Next to the reduction of interest rates, no other single accomplishment would in the long run exert so universal an influence in the direction of lowering production costs.

The development of a good highway system would, in the second place, do more than anything else to increase the tourist trade. Because of the widespread interest in Japanese life and culture, as well as because of the surprising beauty of the country, Japan is particularly fascinating to the tourist. With Tokyo only twelve days distant from New York a trip from the United States to the Orient has become as quick and as easy as was a journey to Europe two decades ago. Good roads, and improved hotel accommodations, would make Japan a Mecca for the traveller.

It is also possible that with the development of good roads and the wider use of the automobile Japan may be able to develop automobile manufacturing, particularly of trucks and cars for commercial use. The fundamental requirement is a market of sufficient size to permit mass production and the economies incident thereto. It is inevitable that in the course of years Japan will make an extensive use of the automobile, particularly for commercial purposes. The lack of horses and the relatively high cost of local railroads make truck transportation relatively more necessary in Japan than elsewhere. It is, therefore, of fundamental importance that the next economic achievement of the country be the development of a nation-wide system of public highways, properly co-ordinated with the railway transportation system.

The development of a co-ordinated national transportation system such as has here been briefly sketched can be carried out only under the leadership of the national government. It would be as impossible to obtain an adequate national system of highways through the independent action of national, state, and local governments, as it would have been to develop an effective railway transportation system in that way.

Whatever the distribution of the costs may be, national planning and direction of a road building program is a fundamental necessity. As has been intimated above, it is essential also that such a program be closely articulated with the further development of railroads—perhaps through the establishment of a department of transportation. Because of its vital significance to the entire economic organization of Japan, such a program of internal transportation development constitutes a definite challenge to constructive statesmanship.

CHAPTER XXIV

INDUSTRIAL POTENTIALITIES

Japan's capacity to find employment for her rapidly increasing population depends in large measure, as we have already indicated, upon the possibilities of further industrialization. It is conceivable that a great future increase in population might be supported from manufacturing activities—the increasing importations of foodstuffs being paid for with exported manufactured commodities. We must accordingly seek to determine Japanese possibilities in this direction.

At the outset of the discussion it is necessary to consider the validity of a prevalent view that an abundance of natural resources in the form of raw materials is essential to the development of extensive manufacturing activities. Concretely, it is often argued that Japan, in consequence of the relative paucity of raw materials, cannot hope to play an industrial rôle in the Orient in any wise comparable with that which England has so long played in the Occident, or which the United States has played in more recent years. The industrial supremacy of these countries is held to be primarily attributable to the existence of abundant natural resources, particularly coal and iron ore.

While the possession of raw materials is undeniably of importance, it is not indispensable to the development of industry. It must not be forgotten that both England and the United States import considerable quantities of iron ore, and that the great textile industry of Great Britain and the rubber industry of the United States have been developed entirely upon the

basis of imported raw materials. Germany is not well endowed with natural resources and yet has succeeded in developing an exceptionally high degree of industrialism. The iron ore required is obtained from nearby sources, but manganese, copper, rubber, wool, cotton, silk, and other raw materials come from distant sources of supply. Germany pays for these imported materials—and also for a considerable part of the food supply of the urban population—by means of the export of manufactured commodities. The increasing population has earned a living from the profits of the fabrication process. Italy and Switzerland are even better examples of nations which have developed industrially without having either agricultural or mineral resources of much account. Imported food and raw materials are paid for largely with the proceeds of fabricated products of relatively high value.

The mere fact, therefore, that Japan is not richly endowed with raw materials cannot be regarded as an insurmountable bar to industrialization, at least along certain lines. While the possession of natural resources within a nation's own borders, or in its colonies, is of vital significance from the standpoint of independence in time of war, it is otherwise of comparatively little importance. If a nation which imports materials can manufacture goods as cheaply, transportation costs included, as they can be produced elsewhere, and if there are important market outlets abroad for the finished products, profitable industrial enterprise may be developed. It is evident, however, that where raw materials have to be imported the export market for finished products is the more important.

Before attempting to gauge the possibilities of further industrialization, it will be useful to recall to what extent Japan is in fact dependent upon

imported raw materials. As we found in Chapter IV, she has sufficient quantities of coal and copper for her own needs; but coking coal is definitely limited in quantity. Moreover, considerable quantities of coal are imported from Chosen, Manchuria, and China because it is cheaper than the domestic product. For the same reason Japan imports considerable quantities of copper. Local supplies of all other minerals, including iron ore and petroleum, are insufficient for the country's requirements even at present. Nor does Japan produce cotton, wool, rubber, or hides. Even lumber and wood pulp have to be imported in considerable quantities.

On the other hand, Japan possesses a great resource in raw silk. Moreover, she produces the materials which enter into the manufacture of porcelain and earthenwares, glass and glassware, cement, lamps, menthol, and a miscellany of other items which are shown in the table on page 451. The important brewing, chemical, and wood working industries are also based primarily upon domestic raw materials. Finally, she has a comparative abundance of cheap water-power.

I. THE LINES OF GREATEST PROMISE

In endeavoring to ascertain the possibilities of further industrialism in Japan, two possible methods are available. The first is to make direct cost comparisons with a view to determining whether Japan can compete with Germany and England, for example, in her own or in foreign markets in commodity X, Y, or Z. If accurate and comparable cost figures could be obtained, including not only the manufacturing cost proper but selling and transportation expenses as well, this would be the best method of ascertaining competing possibilities in the several lines. It is, however,

impossible to procure the necessary data from which to make detailed cost comparisons.¹

We must, therefore, resort to a second method, namely, that of testing possibilities by recent competitive trends. After all, the selling price in the market over a period of years must cover costs and yield a profit if the enterprise is to be successful. Hence, if we study carefully the growth of Japanese exports in the competitive markets during recent years, we shall have as valid an index of competitive possibilities as can be obtained. We place our emphasis upon the growth of exports of manufactured commodities rather than upon the possibilities of the domestic market merely, for two reasons: first, because the domestic market may be protected from foreign competition; and second, because it is only through the expansion of exports of finished commodities that Japan can pay for imported raw materials and the increasing volume of food imports that will be required in the future.

We present first a table showing the growth of exports of the principal manufactured commodities for the years 1923-1929 inclusive. In view of the fact that the level of wholesale commodity prices fell approximately 17 per cent during this period, the growth is understated to approximately that extent.

The most striking fact revealed by this table is the overwhelming importance of textile products, particularly cotton manufactures. Cotton goods accounted for about 50 per cent of the principal manufactured exports in 1929, silk manufactures for 15 per cent, and clothing for 7 per cent. While the exports of

¹ Numerous students have endeavored to make cost comparisons, but none of these computations include all of the elements of cost. Moreover, the estimates that have been made of relative wage costs and of the relative efficiency of plant and equipment are far from conclusive.

cotton manufactures have remained relatively stationary in value, silk manufactures and clothing have shown a very substantial increase.

GROWTH OF PRINCIPAL MANUFACTURED EXPORTS,
JAPAN PROPER, 1923-1929^a
(In millions of yen)

Commodities	1923	1924	1925	1926	1927	1928	1929
Cotton manufactures ^b	334.5	458.2	586.9	513.0	451.7	411.4	476.2
Silk manufactures ^c ..	95.5	131.5	123.3	137.9	145.5	139.3	154.4
Clothing ^d	27.4	29.2	42.8	40.8	44.0	54.7	71.0
Pottery.....	23.5	25.4	35.3	33.2	30.5	34.6	37.0
Paper and manufactures.....	20.5	20.8	26.0	24.9	26.5	32.1	33.3
Refined sugar.....	14.7	28.9	32.3	34.0	28.9	38.4	30.0
Wheat flour.....	1.4	1.9	13.9	19.7	14.3	24.7	26.8
Comestibles ^e	6.1	8.0	13.6	15.9	19.5	23.0	25.7
Aquatic products.....	19.9	22.5	22.6	22.7	20.0	17.4	22.3
Iron manufactures...	11.4	12.8	21.3	19.6	19.0	13.7	15.2
Toys.....	7.1	8.3	10.8	10.9	10.5	11.0	13.9
Machinery and parts	8.8	9.5	9.5	8.5	11.0	10.6	13.6
Glass and glassware.	10.1	12.7	17.3	14.3	16.6	12.9	13.2
Lamps and parts....	4.2	5.1	6.2	6.6	6.9	8.4	9.5
Jewelry.....	4.4	4.5	5.3	4.0	4.0	8.0	9.2
Cement.....	2.0	2.4	4.3	4.9	7.1	6.9	9.2
Buttons.....	7.3	9.0	8.7	8.5	9.9	7.7	7.2
Shooks.....	3.6	4.0	6.4	7.3	5.3	5.2	6.4
Vehicles and parts...	1.6	2.4	3.5	7.4	5.0	5.0	6.4
Rubber tires.....	3.9	3.2	9.5	4.7	4.9	5.7	6.3
Electric lamps.....	1.3	1.8	2.2	3.0	3.2	4.5	5.4
Menthol.....	3.5	7.8	12.5	10.0	4.9	3.9	5.2
Plaits for hat-making	10.0	9.2	12.3	10.3	8.4	4.7	5.2
Isinglass.....	3.5	4.5	5.9	3.7	3.2	4.1	4.6
Toothbrushes.....	6.0	4.0	4.0	4.1	3.4	3.2	4.1
Carpets.....	4.3	4.7	7.4	6.3	4.9	4.5	4.0
Matches.....	10.6	9.2	8.7	6.9	8.2	5.1	3.7
Furs.....	1.2	1.8	1.7	1.6	3.2	3.0	3.7
Insulated electric wire	1.6	1.4	1.8	1.9	1.9	2.8	3.5
Mirrors.....	1.9	2.7	2.9	2.3	2.5	2.4	2.5
Clocks.....	1.3	1.6	1.7	1.8	2.1	1.7	2.1
Umbrellas.....	2.1	3.7	4.0	3.0	2.3	2.5	1.9
Mats.....	1.8	1.5	2.0	1.9	1.9	1.5	1.8
Lacquered ware.....	1.3	1.3	1.8	1.8	1.5	1.7	1.8

^a Compiled from Annual Reports of the Japanese Department of Finance, *Annual Return of the Foreign Trade of the Empire*.

^b Includes cotton tissues, knitted goods, and yarn.

^c Includes silk tissues and handkerchiefs.

^d Includes undershirts and drawers, headgear, socks, stockings, and footwear.

^e Tinned and bottled goods, not including canned crabs, salmon, and trout.

The second significant fact is that whereas the exports of cotton tissues, knitted goods, and yarn have remained relatively stationary in volume in recent years exports of numerous other commodities have increased rapidly and have come to have a large aggregate importance. The largest gains are to be noted in paper and paper manufactures, wheat flour, comestibles, cement, toys, jewelry, vehicles, and lamps. Exports of matches,² plaits for hat-making, menthol, toothbrushes, and umbrellas are the only commodities which show an appreciable decline.

In this table we have not included the exports of manufactured goods from Japan proper to the colonies. Since the colonies are within the Japanese tariff system, they are a protected market and hence Japanese exports have an artificial advantage over those of other countries.³ The exports of manufactured products to the colonies must not, however, be overlooked in gauging the possibilities of the industrialization of Japan proper. As we found in Chapter XIII, exports of manufactured goods to Taiwan and Chosen have grown steadily during the last decade. Exports of cotton and silk fabrics to Taiwan and Chosen in 1929 amounted to 73,248,000 yen, as compared with exports of 670,000,000 yen to foreign countries. Iron, steel, and machinery exports amounted to 40,268,000 yen, which materially exceeded the exports to foreign countries. Exports of fertilizers amounted to 20,816,000 yen; of flour to 10,018,000 yen; of bicycles and parts to 5,011,000 yen; of paper to 10,363,000 yen; and of beer to 5,073,000 yen. It will be seen that in most of these cases exports to the colonies are actually greater than those to foreign countries.

² See discussion, p. 124.

³ See discussion, Chap. XVII, p. 325.

The markets for Japanese manufactured goods are primarily in the Orient. In the case of cotton tissues, over 60 per cent goes to China and British India, and nearly 90 per cent to the Orient as a whole, Egypt being the only other important outlet. Aside from silk manufactures, porcelain and earthenwares, and tinned and bottled comestibles, most of the other items listed in the table, and a miscellany of other products as well, are sold almost exclusively in the Orient. Even in the case of silk goods and potteries the Oriental markets are in the aggregate as large as those of the rest of the world combined. Exports to Australia and New Zealand, Cape Colony and Natal have been steadily expanding since pre-war days.

In order of importance, the countries, or trade areas, which constitute the principal outlets for Japanese manufactures—other than the exceptions noted in the preceding paragraph—are China, Kwantung Province, and Hongkong (which may be considered as a single area), British India, Dutch India, the Philippine Islands, and the Straits Settlements. These regions may, therefore, be selected for testing Japan's competitive position. We find that with China, Kwantung, and Hongkong, the Philippines, and Dutch India, the percentage of total imports received from Japan has steadily increased since 1913 and also since 1923. In the case of British India, there has been a substantial increase as compared with 1913; but since 1923 the percentage has remained practically stationary. There has been no percentage gain in the trade with the Straits Settlements. On the whole, therefore, Japan has clearly been gaining relatively to other countries.

Further light may be thrown on this competitive situation by analysis of the exports of certain specific commodities. Because of dissimilarities in the trade classifications of different countries, it is not possible

EXPORTS OF COTTON GOODS* TO ORIENTAL MARKETS BY COMPETING COUNTRIES, 1923-1929*
(In thousands of yen)

Source and Destination	1923	1924	1925	1926	1927	1928	1929
Japan to:							
China	180,455	238,364	309,009	255,830	234,462	180,070	195,712
British India	57,058	82,871	109,111	98,433	106,167	79,366	132,557
Dutch India	22,535	37,195	49,373	44,520	49,248	39,275	42,283
Philippine Islands	6,820	7,565	12,097	10,607	12,015	7,267	6,316
Straits Settlements	6,048	4,901	14,560	12,353	10,042	3,520	5,798
Great Britain to:							
China	10,078	12,817	7,595	7,069	6,840	4,148	4,229
British India	35,759	43,979	37,752	36,435	33,303	32,845	28,380
Dutch India	4,538	4,695	6,579	3,831	3,897	4,134	3,530
Philippine Islands	414	682	608	473	528	517	412
Straits Settlements	2,579	2,219	3,295	2,373	2,298	1,835	2,514
United States to:							
China	310	342	1,120	354	238	300	238
British India	207	534	714	720	694	857	1,437
Dutch India	— ^d	—	—	—	—	—	—
Philippine Islands	11,369	9,644	11,515	13,367	11,347	12,200	10,536
Straits Settlements	—	—	—	—	—	—	—
Germany to:							
China	1,880	2,920	1,480	2,870	2,290	2,970	2,280
British India	4,760	8,220	7,940	11,640	8,900	9,680	6,780
Dutch India	2,500	2,920	3,930	3,940	3,130	3,000	3,210
Philippine Islands	—	—	—	990	1,530	990	1,040
Straits Settlements	—	—	1,730	2,420	1,550	1,070	1,870

* Includes cotton tissues and yarns.

^b Compiled from official foreign trade statistics of the several countries.

^c Including Hongkong and Kwantung.

^d Dashes mean negligible amounts.

to present for most of the individual commodities listed in the table detailed figures of exports from the leading manufacturing countries to these competitive markets, but the figures can be given for some of the most important ones.

1. *Cotton manufactures.* The exports of cotton manufactures to the principal oriental markets from Japan, Great Britain, the United States, and Germany are shown by the table on page 454.

It is apparent from this table that the strong competitive position acquired by Japan during the war period has been maintained and strengthened in succeeding years. The great bulk of Chinese cotton imports is obtained from Japan, and Japan's percentage of the total has been steadily increasing. Of the decline in the value of cotton exports to China since 1925, approximately a third may be attributed to the fall in prices and the rest to unsettled conditions in China.

Japan also occupies the leading position in the export of cotton goods to British India. The exceptionally high figure in 1929 may be attributed to the boycott of British goods; but it will be observed that in preceding years British India bought about three times as much from Japan as from Great Britain. The percentage bought from Japan has, moreover, steadily increased. Japan's pre-eminence lies chiefly in the lower grade cotton tissues. American and German exports to British India, while increasing, are of negligible importance.

Japanese cotton exports to Dutch India have increased markedly since 1923, whereas those from the other countries listed have remained practically stationary. Exports to the Philippines reached a peak in 1925-1927—with the annual shipments running slightly

below those from the United States. The Straits Settlements obtain substantially more cotton goods from Japan than from any other country. In 1928 and 1929, however, there was a substantial decline, with both Great Britain and Germany showing gains in the latter year.

EXPORTS OF PORTLAND CEMENT TO ORIENTAL MARKETS BY
COMPETING COUNTRIES, 1923-1929 *

(In thousands of yen)

Source and Destination	1923	1924	1925	1926	1927	1928	1929
Japan to:							
China ^b	1,493	597	1,086	1,450	1,195	1,443	2,668
British India	3	85	146	167	264	356	429
Dutch India	102	491	1,578	1,657	2,541	2,367	3,449
Philippine Islands..	391	1,106	549	635	835	1,075	1,402
United States to:							
China	8	6	25	7	8	9	6
British India	— ^c	6	13	12	16	27	23
Dutch India	9	1	3	3	5	7	8
Philippine Islands..	14	2	3	3	7	9	2
Germany to:							
China	—	—	—	—	—	—	—
British India	—	—	—	1,140	830	—	—
Dutch India	—	—	790	1,090	1,920	1,240	910
Philippine Islands..	—	—	—	—	—	—	—

* Compiled from official foreign trade statistics of the several countries.

^b Including Hongkong and Kwantung.

^c Dashes mean negligible amounts.

2. *Cement.* The relative strength of Japan's position in oriental markets for cement is shown by the table above. Great Britain is not included because she exports little, if any, cement to the Orient.

It will be seen that Japanese exports of cement to these countries have been increasing and that the only real competitor is Germany—in the British and Dutch India markets. In passing, it should be pointed out that of the cement exports to the China, Kwantung,

and Hongkong area, those to Kwantung have been declining in recent years, while those to Hongkong have shown a marked increase. While the total value of the exports of cement is at present small, in comparison with that of cotton manufactures, future potentialities appear to be very considerable.

One must conclude from the foregoing analysis that Japan in recent years has been in a relatively strong competitive position in oriental markets. With such important manufactured commodities as cotton and cement she has been more than holding her own, and in a wide range of miscellaneous manufactured goods Japanese exports have been steadily expanding. We must now turn to a consideration of the exports of silk manufactures, porcelain and earthenwares, and canned and bottled comestibles, which are sold in considerable quantities in American, European, and Australian markets, as well as in oriental countries.

3. *Silk manufactures.* The very important export trade in silk tissues is widely distributed geographically. The table on page 458 shows the growth and distribution of these exports from 1923 to 1929. It will be seen that the growth has been very marked in recent years and that there has been an increase of exports to nearly every country except the United States and Great Britain. Although silk tissues may be classified as luxury products, the amount going to China, British India, Dutch India, the Straits Settlements, and Egypt is by no means inconsiderable, and has been steadily increasing.

The total value of silk handkerchief exports has increased from 3,166,000 yen in 1923 to 4,448,000 yen in 1929. The principal markets for silk handkerchiefs are the United States, Uruguay, and British India. In 1929, the United States took nearly one-third of the

total, Uruguay about one-fourth, and British India about one-seventh.

DISTRIBUTION OF JAPANESE EXPORTS OF SILK TISSUES, 1923-1929 *
(In thousands of yen)

Destination	1923	1924	1925	1926	1927	1928	1929
Australia	14,198	23,283	24,659	30,436	32,578	28,314	26,271
British India	6,806	12,539	12,656	11,986	15,846	17,074	24,717
United States ...	21,253	23,635	21,037	26,264	18,189	15,407	14,703
China ^b	2,764	3,594	2,804	3,204	3,079	8,022	10,982
France	5,777	10,076	6,949	6,376	8,290	10,041	10,745
Great Britain ...	12,900	25,872	16,479	16,952	16,912	9,730	10,327
Canada	4,486	7,541	10,059	14,049	15,037	12,589	9,488
Philippine Islands	261	574	1,254	1,448	2,433	3,901	6,659
Dutch India	622	1,561	2,033	2,256	2,486	3,392	6,402
Straits Settlements	278	1,136	1,768	2,325	2,091	2,506	6,068
Cape Colony and Natal	946	3,124	4,845	5,874	6,169	6,302	5,915
Uruguay	—	—	—	—	—	3,531	3,030
Egypt	376	1,250	881	751	1,442	1,447	2,193
Argentina	2,525	3,159	2,562	1,523	1,601	2,138	1,870
Other countries	19,126	8,496	8,996	9,626	13,462	9,664	10,584
Total	92,318	125,840	116,985	133,070	139,614	134,059	149,954

* Japanese Department of Finance, *Financial and Economic Annual*, 1930, p. 141.

^b Includes Kwantung and Hongkong.

This is a convenient place to consider the bearing of the development of the rayon industry upon the markets for both Japanese silk manufactures and raw silk. The growth of this industry has been so rapid as to suggest the possibility of the ruin of silk production and manufacturing. The growth of world production since 1916 is indicated by the following figures: ⁴

	Pounds		Pounds
1916	31,200,000	1925	183,000,000
1919	36,400,000	1927	265,900,000
1922	80,900,000	1929	404,000,000

⁴ Figures through 1925 are from Avram, M. H., *The Rayon Industry*; for 1927 and 1929 from Silk Association of America, *Mid-Year Report*, 1930.

The amounts produced by the leading manufacturing countries for the year 1929 are shown by the following table: ⁵

Pounds	Pounds
United States ... 123,100,000	Japan 27,000,000
Great Britain ... 56,900,000	Netherlands 20,000,000
Italy 71,100,000	Belgium 15,000,000
Germany 45,000,000	Switzerland 12,300,000
France 37,000,000	Others 22,200,000

Despite this remarkable expansion of the rayon industry, both the production of raw silk and the manufacture of silk products have continued to expand steadily in Japan. The question, therefore, would appear to be not whether the silk industry will be destroyed, but rather whether its growth is likely to be seriously affected by rayon competition.⁶ In general the lower priced rayons compete principally with cotton, while the finest products compete with silk, particularly in dress-goods, shirts, and men's hosiery. The latest improvements in rayon manufacture are said to give a lustre indistinguishable to the average person from that of silk. It remains to be seen, however, whether this higher grade rayon product can be produced at a price lower than that of silk—quality and durability considered.

The recent sharp decline in the price of raw silk, however, disadvantageous from some points of view, has proved of great advantage from the standpoint

⁵ *The Textile World*, February, 1930, p. 125.

⁶ It is difficult to generalize about the competitive power of rayon because both its quality and its price have been changing rapidly. Moreover, it has recently become possible to manufacture rayon crêpe, thus greatly increasing the field of competition. It appears, however, that thus far rayon has competed rather more with cotton than with silk. It is distinctly more satisfactory than cotton for many purposes, and its price in recent years has not been very much higher. It has some advantages over silk, but in other respects it is distinctly inferior.

of competition with rayon, both in the higher and in the intermediate grades. The following index numbers show the movement of prices for Japanese raw silk and rayon from 1923 to 1930. In both cases the average price for the year 1926 is taken as 100.⁷

	Japanese Raw Silk	Rayon
1923.....	139.7	153.6
1924.....	100.9	113.0
1925.....	106.1	112.0
1926.....	100.0	100.0
1927.....	87.9	85.0
1928.....	81.9	85.7
1929.....	79.6	69.7
1930.....	51.1	59.6

It will be seen that from 1923 to 1929 the price of rayon declined considerably more rapidly than that of silk, but that the decrease in 1930 was very much greater in silk. In consequence of this decline in the price of raw silk, the price of finished silk goods will be much lower in the next few years than heretofore, and silk will therefore be in a stronger competitive position, particularly with reference to the high-grade rayon which alone compares favorably in quality with silk.

It is not spotted by perspiration and is specially adapted for summer use, and it can be dyed in more radiant colors than either silk or cotton. The English product, celanese, is a good insulator and is therefore used as wire covering; and it also has exceptionally good dyeing qualities. On the other hand, rayon does not have the subdued lustre of silk, the material is heavier, and, most important of all, it does not wear nearly so well. It is perhaps best to characterize rayon as a new textile fabric possessing individual merits, and to an appreciable extent cutting into the potential markets for both cotton and silk.

⁷ Figures for 1923 through 1929 are from U. S. Department of Commerce *Year Book*, 1930, Vol. I; 1930 figures were supplied by U. S. Department of Labor.

On the whole, one must conclude that the effects of the rayon industry upon the silk industry have thus far not been very serious and that it is altogether unlikely that rayon will spell the ruin of silk. It will, nevertheless, tend to restrict the growth of the silk industry. It is of interest in this connection to recall that the Japanese rayon industry has been developing rapidly during the last few years, reaching an export basis in 1930.

DISTRIBUTION OF EXPORTS OF TINNED AND BOTTLED
COMESTIBLES, 1923-1929 ^a
(In thousands of yen)

Country	1923	1924	1925	1926	1927	1928	1929
United States ^b	3,535	4,410	8,342	8,967	9,361	11,876	11,972
Great Britain.....	123	989	1,883	3,541	6,200	6,562	5,523
China ^c	1,201	2,059	2,262	1,796	1,619	1,632	1,918
Other countries.....	1,268	540	1,127	1,634	2,330	2,961	6,267
Total.....	6,127	7,998	13,614	15,938	19,510	23,031	25,681

^a Japanese Department of Finance, *Financial and Economic Annual*, 1930, p. 140.

^b Includes Hawaii.

^c Includes Kwantung and Hongkong.

4. *Comestibles*. The exports of tinned and bottled comestibles ^a have been increasing very rapidly in recent years, the United States and Great Britain being the principal markets. The table above shows the growth and distribution by leading countries from 1923 to 1929.

The growth in this seven-year period has been more than fourfold. While the United States and Great Britain take roughly two-thirds of the entire amount, the rapid expansion of the exports going to miscellaneous countries is evidence that the market is steadily broadening.

^a This does not include canned crabs, salmon and trout, the exports of which aggregated 21,099,000 yen in 1929. For discussion of canned crabs see p. 53.

5. *Potteries.* Japanese exports of porcelain and earthenwares, or potteries, are also widely distributed, but the United States takes about 40 per cent of the total. The following table shows the growth of exports to principal countries from 1923 to 1929:

DISTRIBUTION OF EXPORTS OF PORCELAIN AND EARTHENWARES,
1923-1929 *

(In thousands of yen)

Country	1923	1924	1925	1926	1927	1928	1929
United States.....	9,135	9,593	12,022	13,948	12,244	13,793	14,501
Dutch India.....	3,187	3,569	5,826	3,260	4,254	4,823	4,928
China ^b	2,923	3,322	3,868	3,918	3,402	4,171	4,552
British India.....	1,776	2,349	3,476	2,934	2,526	2,456	2,559
Canada.....	776	713	975	1,228	1,225	1,420	1,650
Australia.....	1,104	1,031	1,032	1,111	972	1,172	1,159
Netherlands.....	348	412	591	499	517	775	1,028
Straits Settlements..	993	1,008	2,633	1,744	937	588	712
Philippine Islands...	480	568	728	652	851	794	667
France.....	402	536	723	585	292	521	636
Great Britain.....	507	444	672	612	417	469	517
Other countries.....	1,829	1,892	2,728	2,690	2,854	3,660	4,053
Total.....	23,460	25,437	35,273	33,182	30,491	34,642	36,962

* Japanese Department of Finance, *Financial and Economic Annual*, 1930, p. 142.

^b Includes Kwantung and Hongkong.

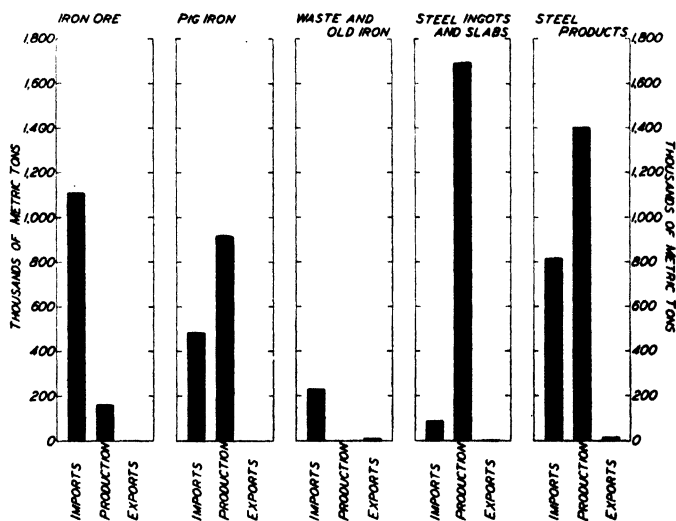
Exports to the United States, Canada, the Netherlands, China, British India, and Dutch India have shown a substantial increase since 1923. The substantial value of the exports to China, the Netherlands, France, and Great Britain, which are themselves important pottery producing countries, is of particular interest. The most interesting feature of the table, however, is the evidence which it affords of the world-wide demand for Japanese ceramic wares.

II. POSSIBILITIES IN IRON AND STEEL

Since iron and steel have played so important a part in the development of industrial civilization, this

analysis would not be complete without consideration of the possibilities of the further expansion of the metallurgical industry. We are concerned here not with fabricated iron and steel products or machine manufactures, but only with basic materials in semi-manufactured form.

IMPORTS, PRODUCTION, AND EXPORTS OF IRON ORE AND IRON AND STEEL PRODUCTS, JAPAN PROPER, 1927 ^a



^a For annual data for the years 1923-1927, see Table 88, p. 627. Complete data were not available for later years.

We have already seen in Chapter VII that the iron and steel industry expanded rapidly during the period of the World War, fell off somewhat in the early post-war years, and then recovered again in recent years. If we are to appraise the significance of this development, we must, however, consider iron and steel production in relation to imports and exports. The diagram above shows the imports, production,

and exports of iron ore, pig iron (including ferro-alloy), waste and old iron, ingots and slabs of steel, and steel products for the year 1927.

The diagram shows clearly that the great bulk of the iron ore used is imported. Included in the imports are the ores brought in from Chosen. In 1927, home production amounted to 159,000 metric tons; imports from Chosen, to 169,000 metric tons; from China, including Manchuria, to 503,000 metric tons; and from the Straits Settlements, to 434,000 metric tons. The home production was thus equal to only 13 per cent of the total consumption. The total production in Chosen was 422,000 metric tons, the balance being used to make pig iron in Chosen blast furnaces.

Notwithstanding the large imports of iron ore, it will be seen that the pig iron imports are also substantial in amount. Only about 60 per cent of the pig iron consumed in Japan proper is produced within the country. The production in Chosen amounted to 129,022 metric tons in 1927, as compared with 911,258 metric tons in Japan proper. In Manchuria 244,203 metric tons were produced by Japanese interests. Of the pig iron consumed in Japan proper in 1927, only 102,668 metric tons were imported from the colonies, while 478,000 metric tons came from foreign countries. About 55 per cent of the latter came from British India, about 35 per cent from China and Manchuria, and about 10 per cent from Great Britain, Germany, Sweden, and the United States.

The production of steel ingots and slabs and steel products was sufficient in 1927 to provide about 65 per cent of the total consumption. Waste and old iron, however, continue to be imported in substantial quantities. Exports of steel ingots and slabs, steel products, and waste and old iron are of negligible amounts. Of the imported steels, Germany supplied 38 per cent,

Great Britain and the United States 20 per cent each, with the remainder coming mainly from Sweden and Belgium.

It is evident from the foregoing data that Japan has already developed a fairly extensive iron and steel industry. Indeed, she supplies approximately 60 per cent of her own requirements. The fact that she does not possess large ore resources of her own either in Japan proper or in the colonies has obviously not proved an insuperable barrier to the growth of the industry. Two important phases of the problem, however, remain for consideration. First, are the sources of supply of iron ore sufficient to enable Japan to become a great iron and steel manufacturing nation, and, second, has the development of the industry entailed costs disproportionate to the gains?

As we found in Chapter IV, the reserves of iron ore in Japan and Chosen are wholly inadequate to support an important iron and steel industry. They amount at the outside to about 60,000,000 tons for Japan and Korea combined. The iron ore resources of Manchuria are estimated at from 300,000,000 to 350,000,000 tons, metallic content, which is about equal to the metallic content of the ore reserves of Germany and of the United Kingdom (which are insufficient for their requirements), and is about one-seventh of the metallic content of the estimated reserves of the United States. The bulk of this ore is, however, of very low grade, and much of it would not be counted as ore in the United States.⁹ The inferior quality of the bulk of the Manchurian ores necessitates large outlays in their preparation for use, and thus imposes a heavy cost handicap.

⁹ Bain, H. Foster, *Ores and Industry in the Far East*, p. 88.

It is because of the poor quality and high cost of Manchurian ore that Japan has in recent years been looking to other sources of supply. As has already been indicated, nearly half of her imported ores now come from the Straits Settlements. In 1920, a Japanese company obtained a 21-year concession, renewable for 21 years, to the Bukit Medan iron mines in Johore, on the Malay Peninsula north of Singapore. The ore deposit is situated near the Batu Pahat river; it is transported to the river in hand-cars on a light railway, and then by barge 18 miles down-stream to the mouth of the river and six miles out to sea, where it is transferred to ocean vessels. There are occasional back hauls of coal from Japan to Singapore. The ore is hematite and surpasses in quality any other ore that is received by the Imperial Steel Works at Yawata. Japan's imports from this source have increased very rapidly—from about 130,000 metric tons in 1921 to 434,000 metric tons in 1927, and to more than 1,000,000 in 1930. During the same period, imports from China have been decreasing. No estimates are available as to the reserves of the Bukit Medan mines. Another Japanese company obtains manganese ore from a mine in Trengganu, on the east coast of the Malay Peninsula. There are apparently iron ore deposits in this region, though as yet they have not been developed.¹⁰

Japanese manufacturers have also entered into a contract with the Australian Iron and Steel Company, Ltd., for the delivery of iron ore from deposits on the northwest coast of western Australia. Substantial quantities are here available, reserves being estimated at 100,000,000 tons. Because of the greater distance which this ore has to be shipped, however, and the lack

¹⁰ Orchard, John E., *Japan's Economic Position*, pp. 332-33.

of any back haul traffic, it is a much more costly and generally less satisfactory source of supply than the Malay Peninsula.¹¹

Finally, mention should be made of lateritic ores in the Philippine Islands and in the Dutch East Indies. These lateritic ores are as yet undeveloped, but it is estimated that there are several hundred million tons of reserves. The ore is not of the best type for furnace use and requires preliminary treatment before it can be used; hence the cost is certain to be relatively high. Since the Philippines import considerable quantities of coal, there could be a back freight movement here if the ore were taken to Japan.¹²

From this analysis of the development of the industry thus far and the reserves of ore available in the Orient, we reach the following conclusions. First, it would be physically possible for Japan to develop an iron and steel industry which for some years to come would fully supply her domestic requirements. But, because of the relative scarcity of high-grade ores, the long run possibilities are apparently limited. If Japan had a per capita iron and steel output equal to that of the United States, her consumption would exhaust the known reserves of iron ore in Japan, Korea, and China in something like 15 years. With the ores of the Malayan Peninsula, the Philippines, and the Dutch Indies added, the resources are still greatly restricted as compared with those of Western Europe and the United States. Hence the physical basis does not exist for the development of a metallurgical industry of enduring importance.

Second, from an economic, as distinguished from a mere physical point of view, the extensive development

¹¹ *Ibid.*

¹² Bain, H. Foster, *Ores and Industry in the Far East*, pp. 209-10.

of the iron and steel industry does not appear to be relatively advantageous. The comparatively high cost of coking coal and iron ore has placed the Japanese iron and steel industry at a very distinct disadvantage as compared with that of the leading western countries. In order to develop the industry, it has been necessary to grant tax exemptions and give much more than the usual amount of subsidy and tariff protection. Rather than demonstrating ability to stand on its own feet, and even to undersell foreign competitors in oriental markets, as has been the case with the cotton textile industry, the development of the heavily protected metallurgical industry has chiefly resulted in increasing the cost of iron and steel to Japanese consumers, thereby handicapping manufactures of fabricated iron and steel products. The bearing of this conclusion upon commercial policy will be discussed in the following chapter.

While we are concerned solely with the economic aspects of this problem, a few comments may be ventured with reference to the military considerations involved. From a military point of view, self-sufficiency in metallurgical production does not appear to be a vital necessity to Japan. In the event of a war with China or Russia, there would be no difficulty in procuring by sea from Europe and the United States the iron and steel products required. In case of a war with the United States, it would be possible to import iron and steel products from Europe, either by way of the Trans-Siberian Railway or by sea. Similarly, were Japan to engage in war with a Western European country, iron and steel products could be obtained from the United States or other European countries. The problem would be a naval one, of maintaining shipping connections. It would seem that if iron ore has to be brought from sources as far distant as the Philippines,

Singapore, the Dutch East Indies, and Australia, the danger of the interruption of supplies by the enemy navy would be approximately as great as the danger of being cut off from finished products of iron and steel. Only in the event that Japan should wage war simultaneously with Europe and the United States would complete independence in the matter of iron and steel products be of vital importance.

The analysis in this chapter leads to the conclusion that Japan has demonstrated the capacity to sell many kinds of manufactured goods in competition with those of other countries, particularly in oriental markets. While cotton piece goods, silk tissues, clothing, and potteries are of paramount importance, exports have been increasing in a wide range of other products, and the aggregate value of these has become of genuine importance. It is of no little significance that in many of these newer industries exports continued to expand even in the depressed year 1930. The steady growth of manufactured exports in varied lines affords fairly conclusive evidence that in terms of cost and quality Japanese-made goods now compare very favorably with those of other countries with which they enter into direct competition.

CHAPTER XXV

REORIENTATION OF COMMERCIAL POLICY

In the light of the foregoing analysis of the possibilities of further industrialization, we are in a position to consider certain aspects of Japanese commercial and political relations. What commercial policies do the factors involved in further industrialization suggest as desirable, and in what ways may unfavorable commercial and political relations retard the growth of industrial activities?

The future of Japanese industry depends primarily upon satisfactory trade relations with two important regions, namely, North America and the Orient. As much as 38 per cent of all Japanese trade is with North America, while 40 per cent is with Asia. Of the North American trade about 95 per cent is with the United States, and of the Asiatic trade approximately 60 per cent is with China and British India.¹ The aggregate trade with other parts of the world—aside from that in silk tissues and potteries—is of negligible importance from the point of view of the larger issues with which we are here concerned. If Japan is to find employment for her increasing population through the process of further industrialization, she must import raw materials chiefly from North America and Asia, and export her manufactured products chiefly to the same regions.

I. COMMERCIAL RELATIONS IN THE ORIENT

It appears self-evident from the facts revealed in the preceding chapter that Japanese commercial policy

¹ See chart on p. 256.

with respect to oriental countries should continue to be one of trade freedom. Japanese imports from the Asiatic mainland consist chiefly of iron ore, coal, and foodstuffs, and since the country is not self-sustaining in these products there is little justification for import duties as a permanent national policy. Only the occasional levying of agricultural duties with a view to stabilizing local conditions might be justified. As regards manufactured products, Japan obviously does not need protection against other oriental goods. Eventually China and India may conceivably develop their textile manufactures sufficiently to compete with Japan in Japanese markets; but such competition is evidently not a matter for early concern.

This oriental trade is one which gives a maximum of reciprocal advantages to the countries concerned; hence every effort should be made to further its development. Indeed, Japan's ability to find employment for her increasing population depends to so great an extent upon the expansion of markets for manufactured products in the Orient that the promotion of peaceful commercial intercourse should be a fundamental principle of international policy.

During the past 15 years Japan has followed two essentially different economic policies in the Orient. On the one hand, she has endeavored to expand through normal processes her commerce with other oriental countries; and, on the other hand, she has pursued a policy of economic penetration on the mainland. The latter policy has, unfortunately, in no small degree interfered with the success of the former, without achieving important results on its own account.

Economic penetration in Manchuria and China has not given to Japan any important outlet for her population, nor have the iron ore and other resources of which she has secured control given her cheaper or

more adequate supplies than she might have obtained through ordinary commercial processes. While substantial profits have been made by certain Japanese companies operating on the mainland, these gains have been in no small measure offset by the losses resulting from the ill-fated "Nishihara loans" which we have discussed in a preceding chapter.² The more important counter-balancing factors, however, are the indirect losses resulting from strained political relations and the erection of barriers against the export of Japanese goods.

Without attempting to express in any way a judgment as to the merits of the complex issues which now exist between Japan and China, one may nevertheless observe that from an economic point of view the maximum gains for both China and Japan are to be derived from the expansion of reciprocally advantageous trading operations. Japan's position in the Orient in many ways resembles that of Great Britain in Europe a hundred years ago.³ Benefiting from an early start in a wide range of manufacturing activities, Great Britain grew and prospered through the conversion of raw materials into finished products for sale in expanding markets on a nearby continent and in various regions overseas, particularly in the United States.

The great problem with which Japan is faced is the uncertain economic future of oriental countries, particularly China and India. Two possible dangers are conceived—the one, a long period of instability and economic retrogression, and the other, a period of stability accompanied by industrial expansion, par-

² See p. 283.

³ Exceptions will be noted in the metallurgical industry and in the production of raw silk.

ticularly in cotton textile manufacturing. Of these two possible trends, only the former need be a source of great concern.

If China and India should achieve political and economic stability and develop textile manufacturing in an important way during the next 20 years, the outlets for Japan's textile manufactures would be curtailed; but, on the other hand, such economic development in these countries would mean increased outlets for many other kinds of Japanese manufactured goods, with the resulting gains doubtless more than offsetting the losses. The effects would be similar to those upon England, when the industrial development of Germany in the last quarter of the nineteenth century resulted, despite increased competition in certain lines, in a rapidly growing market in Germany for many other types of British products. The real danger that Japan faces in the Orient is not from the economic development of other countries but rather from the possibility of a long period of unsettled political and economic conditions.

II. COMMERCIAL RELATIONS WITH NORTH AMERICA

The striking fact in the commercial relations of Japan and the North American countries, Canada and the United States, is the complementary, rather than competitive, character of the greater part of the trade. Indeed, between well developed trading areas we find few cases in which the advantages of commercial intercourse are so fully reciprocal in character.

The trade with Canada is small in the aggregate and may be summarily considered. The principal exports of Japan to Canada are silk tissues, potteries, tea, and a miscellany of lesser products. Nearly all of these exports are of manufactured commodities

which Canada does not produce. On the other hand, the principal products imported from Canada are wood and pulp for paper making, lead ingots and slabs, and a wide range of materials, many of which are non-competitive in character. In the aggregate Japan buys more than twice as much from Canada as she sells to Canada.

In the trade between Japan and the United States, the two commodities of overwhelming importance are raw cotton imports and raw silk exports. The imports of raw cotton from the United States in recent years have, however, had a value equal to only about 40 per cent of the value of the raw silk exports to the United States. Japan imports slightly more than half of her raw cotton from India and Egypt. The fact is that the exports of Japanese silk to the United States have had a value more than sufficient to pay for all Japan's imports from the United States. Japan also exports other commodities to the United States which do not directly compete with any American product. The most important of these are tea, camphor, pyrethrum,⁴ plaits for hat-making, canned crab meat, clams, and other marine products.

The principal competitive products among Japanese exports to the United States are silk tissues and handkerchiefs, potteries, undressed furs, brushes, and dolls and toys. In addition, there is a wide range of miscellaneous manufactured articles which compete directly or indirectly with American manufactured goods. These competitive products, however, in the aggregate amount to only about 4 per cent of all Japanese exports.

Japan imports from the United States, besides raw cotton, a number of other important products which

⁴ A powder obtained from the chrysanthemum, used as an insecticide.

she cannot supply from her own resources. Those of largest value are timber and wood, kerosene oil, lead, crude sulphate of ammonium, caustic soda and soda ash, rice, and leather. These materials, including cotton, however, comprise only about 60 per cent of the total imports from the United States, the balance consisting chiefly of manufactured commodities which are actual or potential competitors of Japanese-made goods.

The most important American exports to Japan that are competitive in character are iron and steel, machinery and parts, automobiles and accessories, copper ingots and slabs, and dynamos and transformers. The United States also exports to Japan a vast assortment of miscellaneous manufactured goods which are of substantial importance in the aggregate.

Because of the reciprocal character of the greater part of the trade between Japan and the United States and the large degree of economic interdependency between the two countries, the maintenance of satisfactory political and commercial relations is obviously of paramount importance. From the standpoint of the United States, to maintain and expand exports of such raw materials as cotton, lumber, and oil is of great importance to the future of depressed industries and to the economic prosperity of large sections of the country. Japanese markets are also of real significance for various types of manufactured goods.

From the standpoint of Japan, the maintenance, if not the expansion,⁵ of raw silk exports to the United States is of vital significance. Since 97 per cent of Japan's raw silk exports go to the United States, and

⁵ This qualification is made because of two factors. The first is that the possibilities of expanding raw silk production are comparatively limited, and the second is that it would be desirable from the Japanese point of view to manufacture more raw silk into finished tissues for sale in the United States.

since raw silk accounts for 36 per cent of all Japanese exports to the world as a whole, it is evident that Japan's economic life depends in a very fundamental sense upon the perpetuation of the silk trade. Peace between the two countries is thus of vital importance. For the United States, a war would mean very severe depression in certain basic industries; for Japan, it would spell economic disaster.

Notwithstanding the great expansion of trade between the two countries, the fullest possible advantages of commercial intercourse have not, however, been realized because of the erection of tariff barriers. In so far as any physical or technical factors are concerned, there could be produced for sale in the United States large quantities of silk manufactured goods, potteries, lacquer ware, plaits for hat-making, brushes, and similar products; but sales are restricted by the American tariff.

The only imports from Japan of any importance which are admitted to the United States duty free are raw silk, silk waste, tea, undressed furs, pyrethrum, bags for paper stock, tuna fish, and vegetable wax. Even camphor is given protection in the hope that the development of a synthetic substitute may be stimulated. On virtually all classes of manufactured commodities relatively high duties exist. Moreover, they were increased in the Act of 1922 over the level of 1913, and again in the Act of 1930 over the rates of 1922.

The important articles on which the duties were increased by the Act of 1930 are earthenware and glassware; china and porcelain; canned clams, formerly on the free list; lily bulbs; mushrooms; dried beans and peas; cotton floor coverings; broad silks; silk wearing apparel; imitation pearls; materials for hats; hats, bonnets, and hoods of straw, chip, grass,

palm leaf, etc.; dolls and toys of celluloid; tooth brushes; and cotton wiping rags. With most of these commodities, the only apparent reason for the increases was the desire to afford the fullest possible measure of protection to competing American producers. In some cases, however, there was no direct competition. It is not surprising that these increases, particularly those on such important Japanese exports as silk goods and potteries, should have caused much concern to the Japanese and been made the occasion of protest by Japanese merchants to the Chairman of the Senate Finance Committee and the Secretary of State of the United States.

Such indiscriminate and excessive protection burdens American consumers without in most cases bringing corresponding advantages to producers. Moreover, it tends to restrict American exports to Japan. Even though higher duties were not established by that country as a retaliatory measure, the Japanese people would purchase fewer goods in the United States. The restriction of Japan's exports automatically curtails her buying power abroad.

The Japanese tariff policy has also been developed with a view to giving protection to practically every manufactured commodity that might conceivably be manufactured within the country. In many lines of industry, this policy has, as we have seen in preceding chapters, been justified by the results achieved, for infant industries have been developed to a point where they can stand on their own feet and meet competition on even terms in foreign markets. In other cases, however, the result of protection has been to increase materially the cost of goods to Japanese consumers and to handicap the manufacture of other Japanese products which are of great importance from the standpoint of the Japanese economic system as a whole.

A choice has to be made between stimulating the metallurgical industry, for example, by means of duties and subsidies and giving encouragement to the manufacture of finished iron and steel products and machines through permitting the producers thereof to operate on the basis of cheaper semi-manufactured materials imported from abroad. This iron and steel problem is analogous to that of aluminum.⁶ A government commission recently concluded that to develop the Japanese deposits of that metal would necessitate a high tariff which would so increase the cost of aluminum as seriously to handicap the manufacture of aluminum wares.

It would seem to be sound policy in general to give the preference to finished manufactures. Not only are the handicaps less, but for a given investment of capital a larger volume of employment is afforded. Japan's position in this respect resembles that of Italy and Switzerland which utilize skilled labor in the fabrication of finished wares made from imported semi-manufactured materials.

In the Japanese tariff law of 1926 the principle was enunciated that protection should be afforded only to stable industries of high promise for the future. That sound principle has, however, in many cases been disregarded, for the practice has been to give protection to almost every conceivable product. Without presuming to make detailed recommendations, it may nevertheless be suggested that in a reorientation of Japanese commercial policy emphasis should be placed upon the development of those industries in which Japan has the greatest relative advantage, and which furnish the greatest volume of employment to labor. Further industrial development should be concentrated

⁶ See Chap. IV, p. 58.

upon those lines in which, either by virtue of cost considerations or the particular industrial talents of the Japanese people, the country is in a relatively strong competitive position.

The world in general will not get far toward the goal of more extensive international exchange of commodities which has so frequently been extolled in recent years, unless each nation is ready to reduce its duties on those commodities for the production of which it is not well equipped. So long as each nation insists upon giving protection to every commodity which might conceivably be produced within its borders, we shall not be able to realize the benefits of international specialization and exchange. Even though one may not favor universal free trade and the complete geographic specialization which is involved therein, it is not necessary to go to the opposite extreme of reducing specialization and exchange, particularly in manufactured commodities, to the absolute minimum.

SUMMARY

Sixty years ago the leaders of the new Japan set up a series of economic objectives toward the fulfilment of which national policies were vigorously directed. Our survey of the fundamental economic problems with which Japan is confronted as she stands on the threshold of another period of history leads to the following principal conclusions as to the basic policies that should be pursued.

First, a fundamental requirement for sound economic development is the maintenance of financial stability. This involves the unrestricted movement of specie in the adjustment of international balances and the maintenance of the value of the yen at a fixed parity with gold. Such financial stability can be maintained in the long run only if the two sides of the government budget and the two sides of the international trade and financial accounts are kept in balance. It is difficult to see how budget equilibrium can be maintained unless military expenditures are further curtailed and the interest charges on the public debt reduced. The maintenance of international trade and financial equilibrium will depend primarily upon the nation's ability to expand exports, particularly of finished manufactured products.

Second, there should be a general reduction in money rates if Japan is to find employment for her rapidly increasing labor supply and at the same time expand exports as a means of paying for increasing imports of foodstuffs and raw materials. Costs of production must be maintained at a relatively low level. The financial panic of 1927 and the deflation of ensuing years have eliminated many relatively high cost establishments and have exerted a strong pressure in general

toward an increase in efficiency; industrial and commercial mergers also work in the same direction. But the possibilities of so-called rationalization are restricted in a country like Japan because of the employment consequences. The greatest single possibility for a general decrease in production costs lies in the reduction of money rates, which have long been inordinately and unnecessarily high. Wage reductions, in view of the low living standards existing, should be countenanced only as a last resort.

Third, the development of a nation-wide system of good roads is a need of conspicuous importance. The reduction of transportation costs which a highway system properly co-ordinated with the railroads would bring about would, like a reduction of interest rates, tend to increase economic efficiency generally. Such a program of internal development would moreover provide a considerable volume of employment.

Fourth, Japan's industrial future depends primarily upon the expansion of manufactured exports to two important trade areas—continental Asia and North America. In the interests of providing maximum employment it is necessary to concentrate upon those lines which require the greatest amount of labor in proportion to capital investment, and to the production of which the resources of the country and the industrial talents of the people are particularly adapted. Fortunately, in a wide range of manufactured goods, such as textiles, clothing, ceramics, comestibles, paper, toys, jewelry, glassware, lamps, bicycles and tires, lacquered ware, cement, and even in machinery and finished iron and steel manufactures, Japan may rightly aspire to be the workshop of the Orient, and to no inconsiderable extent of other countries bordering the Pacific and the South Seas. Because of the dearth of raw materials and the restricted size of markets her

forte does not lie in the field of heavy manufacture where the methods of mass production are most successfully employed.

Progress in these various directions cannot, however, be relied upon to provide employment for a continuously expanding population. Our analysis has shown that, thanks to the extraordinary expansion of industry between 1906 and 1926, Japan was able to absorb her increasing labor supply and even to raise standards of living; but it has also disclosed that, whereas the rate of population has been accelerating, the rate of industrial growth has been declining since the fortuitous and temporary factors of the boom era have spent their force. Moreover, if employment is to be provided during the next 15 years for the oncoming workers born during the last 15 years, the number of jobs must be increased at the rate of approximately 500,000 annually.

In view of certain factors affecting Japanese trade possibilities there is no assurance that such a volume of employment can be provided. Agricultural expansion is definitely limited. Silk culture has practically reached the margin of profitable extension; the growth of oriental markets for manufactured goods is dependent upon political and social and economic factors beyond the control of Japan, and markets elsewhere are subject to the tariff policies and fallacies of other countries. With such uncertain and uncontrollable elements in the situation, the rate of economic growth in the next 15 years is a matter of conjecture, but one may safely conclude that it is likely to be less rapid than has been the case in the last 15 years when an exceptional conjuncture of factors resulted in a phenomenal industrial expansion.

In the long run there is no sovereign means for upbuilding the strength of the nation other than by

maintaining a proper balance between population and economic resources. The increased effectiveness of the present economic organization of Japan over that of feudal days has permitted a doubling of the population in 60 years and its support at higher levels of living. But the continued rapid increase of population in recent years now threatens the maintenance of these standards. Unless the rate of population growth is restricted, and restricted soon, the social outlook for Japan will present itself in somber colors.

APPENDICES

APPENDIX A

ANALYSIS OF THE INTERNATIONAL DEBT AND INVESTMENT POSITION

The detailed data on which the statements and figures given in Chapter XIV are based and the means used in checking the data are given in this appendix. A few words are perhaps required as to the methodology involved.

When a nation sells goods or renders services to foreigners in excess of the value of goods and services received from foreigners, it has an excess of international income over outgo, which is evidenced by some form of indebtedness by foreigners, or by a reduction of its own debts to foreigners. Accordingly, if we had precise figures of the foreign trade and service operations of a nation, precise figures of all foreign borrowings and lendings, the sum of the surpluses in the international income and outgo accounts over a given period of time would exactly equal the sum of the investments made; and vice versa in the case of deficits. However, since neither the international current accounts nor the investment and borrowing data are all-inclusive or entirely precise, it is a very useful procedure to check the growth of indebtedness, or investment, as the case may be, by reference to the international accounts. Any serious error in either the figures of capital transactions or the current income and outgo items is thus likely to be disclosed. At the same time light is thrown on the probable magnitude of those investment operations which are not matters of definite record. The method is analogous to checking the results of fiscal operations by the changes occurring in the public debt.

I. SUMMARY OF FOREIGN BORROWINGS, 1870-1930

The loans that have been floated abroad by the Japanese government, municipalities, and private corporations are matters of definite record; and there are also good estimates as to the volume of domestic issues that have been sold abroad. On the volume of direct investments of foreigners in Japanese enterprises, and of Japanese investment in foreign securities and business properties, the data are much less satisfactory and they are available only for recent years.

In order that we may have before us at the outset the record of Japan's foreign borrowings, we present here four tables compiled by the Finance Department. The table on page 488 shows all the foreign loans contracted by the national government from 1870 to 1930; the second on page 490, all the municipal loans that have been floated abroad; the third on page 492, all the foreign loans of banks and corporations; and the fourth on page 494, the amount of external loans of all classes outstanding at the end of each year, from the date of the first loan in 1870 to 1929, including estimates of the locally issued (yen) loans which have been purchased by foreigners.

The table on pages 494-95, which gives all foreign indebtedness outstanding at the end of each year, shows that during the first five years of the modern era the Japanese government contracted two foreign loans which were gradually liquidated between 1873 and 1897. Between 1897 and the World War, foreign indebtedness, both on government and private accounts, steadily increased. It was reduced during the war years, but expanded rapidly again in the post-war era.

II. THE INTERNATIONAL ACCOUNTS, 1868-1898

Because of the large shifts that have occurred in Japan's international accounts at different periods, as well as because of the varying character of the data available at different times, it is desirable to break

ALL FOREIGN BORROWINGS

Description	Date of Issue
9% foreign loan bonds.....	... 1870
7% foreign loan bonds.....	... 1873
4% sterling loan bonds (1st series).....	June 1899
6% sterling loan bonds (1st series).....	May 1904
6% sterling loan bonds (2d series).....	Nov. 1904
4½% sterling loan bonds (1st series).....	Mar. 1905
4½% sterling loan bonds (2d series).....	July 1905
4% sterling loan bonds (2d series) ^a	Nov. 1905
Debenture of purchased railways ^b	Jan. 1906
Debenture of purchased railways ^b	Jan. 1906
5% sterling loan bonds ^c	Mar. 1907
4% sterling loan bonds (3d series) ^d	May 1910
4% franc loan bonds.....	May 1910
Sterling railway bills ^e	Mar. 1913
Sterling railway bills ^e	Mar. 1913
5% franc exchequer notes ^f	Apr. 1913
Sterling railway bills ^e	Feb. 1914
Sterling railway bills ^e	Feb. 1915
Sterling railway bills ^e	Mar. 1915
Debentures of South Manchuria Railway Company (1st issue) ^g	July 1907
Debentures of South Manchuria Railway Company (3d issue).....	Dec. 1908
Debentures of South Manchuria Railway Company (4th issue).....	Jan. 1911
6% sterling loan bonds ^h	Feb. 1924
6½% dollar loan bonds ^h	Feb. 1924
5½% dollar loan bonds ⁱ	May 1930
5½% sterling loan bonds ⁱ	May 1930 ^j

^a For redemption of 6 per cent exchequer bonds (internal).

^b Railway bonds assumed by government at time of nationalization (Kansai Railway debentures, 1905, £1,000,000; Hokkaido Tanko debentures, 1906, £400,000).

^c For redemption of 6 per cent loans of 1904, plus £1,000,000 new loan.

^d For redemption of 5 per cent bonds (internal).

^e The short-term railway bills were discounted at the following rates respectively: 5.5; 5; 4.75; 5.75; and 5.75 per cent.

^f For redemption of international loans.

^g These debentures were issued with the guaranty of the Japanese government. Since Dec. 1, 1920, they have been the

BY JAPANESE GOVERNMENT

Maturity	Issue Price	Amount Issued	Repayment
.... 1882	98	£ 1,000,000	At maturity
... 1897	92½	£ 2,400,000	" "
Dec. 1953	90	£ 10,000,000	
Apr. 1911	93½	£ 10,000,000	Sept. 1907
Oct. 1911	90½	£ 12,000,000	Sept. 1907
Feb. 1925	90	£ 30,000,000	Oct. 1924
July 1925	90	£ 30,000,000	Oct. 1924
Jan. 1931	90	£ 25,000,000	May 1930
Mar. 1926	92	£ 1,000,000	At maturity
Jan. 1921	92¾	£ 400,000	" "
Mar. 1947	99½	£ 23,000,000	—
June 1970	95	£ 11,000,000	—
May 1970	95½	Fr. 450,000,000	—
Mar. 1914	...	£ 1,500,000	At maturity
Mar. 1915	...	£ 1,500,000	" "
May 1923	98	Fr. 200,000,000	" "
Feb. 1915	...	£ 2,500,000	" "
Feb. 1916	...	£ 1,875,000	" "
Mar. 1916	...	£ 1,125,000	" "
July 1932	97	£ 4,000,000	—
July 1932	97½	£ 2,000,000	—
Jan. 1936	98	£ 6,000,000	—
July 1959	87½	£ 25,000,000	—
Feb. 1954	92½	\$ 150,000,000	—
May 1965	90	\$ 71,000,000	—
May 1965	90	£ 12,500,000	—

direct obligation of the Japanese government, which received shares of 117,156,000 yen in the stock of South Manchuria Railway Company.

^b For conversion of the balance of the first 4½ per cent sterling loan, 174,072,337 yen; and of the balance of the second 4½ per cent sterling loan, 177,125,813 yen; and for reconstruction after earthquake, 186,913,120 yen.

^c For redemption 4 per cent sterling loan bonds (2d series) due January 1, 1930.

^d In June, 1931, the Taiwan Electric Power Co. Ltd. floated in New York a loan of \$22,800,000 at 5½ per cent to mature in 1971, 93½ being the price of issue. This loan is guaranteed by the Japanese government.

the analysis of the debt and investment position into a number of distinct periods.

A. Current Accounts, 1868-1895

The only figures as to current international income and outgo available for this period are those for the

ALL FOREIGN BORROW

Bonds Issued	Date of Issue	Date of Maturity
Kobe Waterworks *	July 1899	Nov. 1910
City of Yokohama Waterworks (1st series) *	June 1902	Dec. 1925
City of Osaka Harbor (1st series) *	Oct. 1902	Dec. 1981
City of Tokyo Consolidation and Street Improvement	Aug. 1906	Aug. 1936
City of Yokohama Harbor Reconstruction	Feb. 1907	Feb. 1936
City of Yokohama Gas Works *	Apr. 1909	Feb. 1917
City of Osaka Tram and Waterworks	May 1909	May 1939
City of Kyoto Irrigation and Tram	July 1909	Jan. 1919
City of Nagoya	June 1909	Mar. 1943
City of Yokohama Waterworks (2d series)	July 1909	July 1953
City of Kyoto Public Works	Jan. 1912	Jan. 1919
City of Tokyo Electric	Feb. 1912	Sept. 1952
City of Tokyo Electric	Feb. 1912	Sept. 1952
City of Yokohama Gas Works (2d series)	Apr. 1912	Mar. 1929
City of Tokyo Reconstruction	Oct. 1926	Dec. 1961
City of Yokohama Reconstruction	Dec. 1926	Dec. 1961
City of Tokyo Reconstruction	Apr. 1927	Oct. 1961

* These loans were issued in yen, but for the convenience of countries where they were issued.

movements of trade and specie. It is possible, however, to compute the interest charge, since during these years the only foreign loans were those contracted by the national government, for which the rates of interest are known. In the table on page 496 we give these items of international income and outgo for selected

intervals. The figures are net aggregates for the designated periods.

During the first five years of this period, as already indicated, the Japanese government was borrowing abroad; hence these years require separate consideration. The total trade and specie deficit for the five

INGS BY MUNICIPALITIES

Interest Rate	Amount of Issue		Amount Outstanding December 31, 1929	
	In Currency of Issue	Equivalent in Yen (At par)	In Currency of Issue	Equivalent in Yen (At par)
6.0	£ 25,600	250,000	—	—
6.0	£ 92,185	900,000	—	—
6.0	£ 315,989	3,085,000	£ 279,064	2,724,500
5.0	£1,500,000	14,644,500	£ 732,820	7,154,521
5.0	£ 317,000	3,094,871	—	1,746,210
6.0	£ 66,373	648,000	£ 178,860	—
5.0	£3,084,940	30,118,269	—	21,289,002
5.0	Fr. 45,000,000	17,550,000	£2,180,580	—
5.0	£ 800,000	7,810,400	—	4,295,720
5.0	£ 716,500	6,995,190	£ 440,000	6,486,732
5.0	Fr. 5,000,000	1,935,000	£ 664,420	—
5.0	£5,175,000	50,523,525	£3,842,300	37,512,374
5.0	Fr. 100,880,000	39,040,560	Fr. 80,221,000	31,045,527
5.0	£ 122,500	1,195,967	—	—
5.5	£6,000,000	58,578,000	£6,000,000	58,578,000
6.0	\$19,740,000	39,598,440	\$19,320,000	38,755,220
5.5	\$20,640,000	41,403,840	\$20,019,000	40,158,114
				249,746,620

comparison they are shown in the equivalent currencies of the

years 1868–1872 aggregated 34,519,000 yen. The interest on the loan of 1870, if figured for a full three years, would have amounted, by the end of 1872, to 2,635,000 yen, thus increasing the adverse balance to a total of 37,154,000 yen.

This deficit was not fully covered by the two loans that were floated by the government, one in 1870 and

ALL FOREIGN BORROWINGS

Debentures Issued	Date of Issue	Date of Maturity
Kwansai Railway Company.....	Jan. 1906	Mar. 1926
Hokkaido Colliery Steamship Company (1st series).....	Jan. 1906	Jan. 1921
South Manchuria Railway Company:		
1st series.....	July 1907	July 1932
2d series.....	June 1908	June 1911
3d series.....	Dec. 1908	July 1932
Industrial Bank of Japan (13th series) ..	Dec. 1908	Dec. 1933
Matsui Muslin Spinning Company (1st series) ^a	Apr. 1909	.... 1912
Hokkaido Colonial Bank (8th series) ^a	June 1910	June 1933
Oriental Development Company (1st series)	Mar. 1913	Sept. 1924
South Manchuria Railway Company (4th series).....	Jan. 1911	Jan. 1936
South Manchuria Railway Company (19th series).....	July 1923	July 1948
Tokyo Electric Light Company (1st series)	June 1923	Aug. 1928
Daido Electric Power Company (1st series)	Aug. 1924	Aug. 1944
Oriental Development Company (25th series).....	Mar. 1923	Mar. 1953
Industrial Bank of Japan, Government Guaranty (5th series).....	Aug. 1924	Aug. 1927
Toho Electric Power Company (Class A) ..	Mar. 1925	July 1955
Tokyo Electric Light Company, Sterling (2d series).....	Mar. 1925	Aug. 1928
Ujigawa Electric Company (1st series)...	Mar. 1925	Mar. 1945
Toho Electric Power Company.....	June 1925	July 1945
Daido Electric Power Company (2d series)	July 1925	July 1950
Tokyo Electric Light Company (3d series)	Aug. 1925	Aug. 1928
Toho Electric Power Company.....	July 1926	July 1929
Tokyo Electric Company (1st series).....	Dec. 1927	Dec. 1952
Nippon Electric Power Company (1st series).....	Jan. 1928	Jan. 1953
Tokyo Electric Light Company (4th series)	June 1928	June 1953
Tokyo Electric Light Company (5th series)	June 1928	June 1953
Oriental Development Company (57th series).....	Nov. 1928	Nov. 1958
Toho Electric Power Company (short terms).....	July 1929	July 1932
Total amount outstanding.....	—	—

^a Obligation was assumed by the government in October, 1907.

^b £400,000 was assumed by the government in October, 1906.

^c Obligation was assumed by the government in December, 1920.

OF BANKS AND CORPORATIONS

Interest Rate	Amount of Issue		Amount Outstanding December 31, 1929	
	In Currency of Issue	Equivalent in Yen (At par)	In Currency of Issue	Equivalent in Yen (At par)
4.5	£ 1,000,000	9,763,000	"	"
5.0	£ 1,000,000	9,763,000	"	"
5.0	£ 4,000,000	39,052,000	"	"
5.0	£ 2,000,000	19,526,000	—	—
5.0	£ 2,000,000	19,526,000	"	"
5.0	£ 2,000,000	19,526,000	£ 1,037,520	10,129,308
6.5	Fr. 645,995	250,000	—	—
5.0	£ 512,137	5,000,000	£ 217,156	2,120,100
5.0	Fr. 50,000,000	19,350,000	—	—
4.5	£ 6,000,000	58,578,000	"	"
5.0	£ 4,000,000	39,052,000	£ 4,000,000	39,052,000
6.0	£ 3,000,000	29,289,000	—	—
7.0	\$15,000,000	30,090,000	\$12,500,000	25,075,000
6.0	\$19,900,000	39,919,400	\$16,868,000	33,837,208
6.0	\$22,000,000	44,132,000	—	—
7.0	\$15,000,000	30,090,000	\$13,750,000	27,582,500
6.0	£ 600,000	5,857,800	—	—
7.0	\$14,000,000	28,084,000	\$12,590,000	25,255,540
5.0	£ 300,000	2,928,900	£ 282,352	2,756,602
6.5	\$13,500,000	27,081,000	\$12,044,500	24,161,267
6.0	\$24,000,000	48,144,000	—	—
6.0	\$10,000,000	20,060,000	—	—
6.5	\$ 7,650,000	15,345,900	\$ 7,250,000	14,543,500
6.5	\$ 9,000,000	18,054,000	\$ 8,640,000	17,331,840
6.0	\$ 4,500,000	43,933,500	£ 4,424,500	43,196,394
6.0	\$70,000,000	140,420,000	\$68,768,000	137,948,608
5.5	\$19,900,000	39,919,400	\$19,673,500	39,465,041
6.0	\$11,450,000	22,968,700	\$11,450,000	22,968,700
—	—	—	—	465,423,608

^a Issued in yen.

* Assumed by the government in December, 1920.

ALL FOREIGN INDEBTEDNESS OUTSTANDING, 1870-1929
(In thousands of yen)

End of Year	National Government		Municipal Governments (Actual)	Private Corporations		Total
	Issued Abroad (Actual)	Domestic Loans Sold Abroad (Estimated)		Issued Abroad (Actual)	Foreign Investments in Domestic Issues (Estimated)	
1870....	9,760					9,760
1871....	9,760					9,760
1872....	9,760					9,760
1873....	32,208					32,208
1874....	31,232					31,232
1875....	29,788					29,788
1876....	28,311					28,311
1877....	26,798					26,798
1878....	25,248					25,248
1879....	23,658					23,658
1880....	22,025					22,025
1881....	20,347					20,347
1882....	18,618					18,618
1883....	17,813					17,813
1884....	16,952					16,952
1885....	16,031					16,031
1886....	15,044					15,044
1887....	13,989					13,989
1888....	12,861					12,861
1889....	11,653					11,653
1890....	10,360					10,360
1891....	8,977					8,977
1892....	7,498					7,498
1893....	5,915					5,915
1894....	4,220					4,220
1895....	2,407					2,407
1896....	467					467
1897....	—	43,000	—	—	—	43,000
1898....	—	43,000	—	—	—	43,000
1899....	97,630	43,000	250	—	—	140,880
1900....	97,630	43,000	250	—	—	140,880
1901....	97,630	43,000	250	—	—	140,880
1902....	97,630	93,000	4,235	—	—	194,865
1903....	97,630	93,000	4,235	—	—	194,865
1904....	312,416	105,000	4,210	—	—	421,626
1905....	1,142,271	253,047	4,197	9,763	5,096	1,414,374
1906....	1,146,177	141,060	21,865	15,620	12,688	1,337,410

FOREIGN INDEBTEDNESS—(Continued)

End of Year	National Government		Municipal Governments (Actual)	Private Corporations		Total
	Issued Abroad (Actual)	Domestic Loans Sold Abroad (Estimated)		Issued Abroad (Actual)	Foreign Investments in Domestic Issues (Estimated)	
1907...	1,165,702	150,260	21,840	44,909	17,934	1,400,645
1908...	1,165,702	148,240	21,815	103,487	19,220	1,458,464
1909...	1,165,677	182,260	85,014	103,737	24,324	1,561,012
1910...	1,447,217	108,356	84,704	108,737	28,168	1,777,182
1911...	1,437,449	64,785	84,627	147,789	28,112	1,762,762
1912...	1,427,685	72,121	177,252	147,539	29,521	1,854,118
1913...	1,524,609	74,596	177,147	166,884	26,448	1,969,684
1914...	1,524,605	81,331	177,023	166,789	29,170	1,978,918
1915...	1,493,157	71,831	176,894	166,539	28,102	1,936,523
1916...	1,384,855	56,173	175,106	166,188	26,697	1,809,019
1917...	1,348,588	40,999	172,533	166,048	26,275	1,754,443
1918...	1,311,139	31,627	168,525	165,525	27,352	1,704,168
1919...	1,311,139	63,185	147,317	165,284	35,046	1,721,971
1920...	1,428,294	34,308	140,290	47,540	30,507	1,680,939
1921...	1,362,371	18,483	136,969	33,357	25,416	1,576,596
1922...	1,358,974	5,669	134,219	26,400	24,831	1,550,093
1923...	1,320,616	7,016	130,214	132,941	21,993	1,612,780
1924...	1,514,267	25,954	127,403	193,460	21,993	1,883,077
1925...	1,500,216	8,712	124,627	331,557	21,993	1,987,105
1926...	1,477,871	9,687	220,223	347,633	92,133	2,147,547
1927...	1,460,232	9,360	257,640	315,500	92,133	2,134,865
1928...	1,453,094	31,367	254,163	470,406	97,992	2,307,022
1929...	1,446,895	31,779	245,666	465,623	113,828	2,303,791

the other shortly after the end of the period. The loans were floated at a discount (see table, page 488), and in addition bankers' commissions had to be paid. The amount of these commissions is not made public; but 4 per cent may be taken as a fair average rate. The two loans thus yielded proceeds amounting to approximately 30,000,000 yen, leaving a difference of about 7,000,000 yen not covered by the loans.

Since the trade balance turned favorable in 1873, this difference may have been in part represented by

short-term credits which may have been liquidated in the succeeding years out of the favorable trade balances which ensued. It may also have been in part covered by an inflow of private capital; for many foreign traders and merchants entered Japan at this time. While they were not, in the main, investors in Japanese enterprises, they of necessity brought some working capital. There are no data covering other invisible items; but it is known that they were of negligible importance. The chief sources of income were

AGGREGATE INTERNATIONAL INCOME AND OUTGO, 1868-1895 *
(In thousands of yen)

Period	Net Trade	Net Specie Movement	Interest	Net Income or Outgo
1868-1872.....	- 35,308	+ 789	- 2,635	- 37,154
1873-1875.....	- 21,979	+ 29,328	- 2,635	+ 4,714
1876-1880.....	- 20,220	+ 35,040	- 9,218	+ 5,607
1881-1885.....	+ 27,953	- 2,289	- 6,808	+ 19,361
1886-1890.....	+ 3,891	+ 5,315	- 4,474	+ 4,732
1891-1895.....	+ 40,447	+ 4,536	- 2,060	+ 42,923
1868-1895.....	- 5,216	+ 72,719	- 27,320	+ 40,183

* The plus sign indicates net income from an excess of exports over imports; the minus sign, net outgo.

the expenditures of foreign ships operating in Japanese ports, and the principal outgo consisted of expenditures of Japanese missions and travellers abroad. Freight charges paid by Japanese to foreign ship owners need not be considered, since they are included within the trade figures. (See discussion, page 505.)

Beginning with 1873 the trade and specie balance, except for an occasional year, was continuously favorable until 1895. The interest payments were on a declining scale, the entire debt being virtually eliminated in 1896 (see table, page 494). For the period 1873-1895 there was a surplus of income aggregating

77,337,000 yen. Meanwhile the two loans contracted in 1870 and 1873 respectively, having an aggregate face value of 33,184,000 yen, were reduced to 2,407,000, or to the extent of 30,777,000 yen. If we assume that 7,000,000 yen went for the liquidation of short-term indebtedness and private investments made prior to 1873, about 38,000,000 of the 77,337,000 of surplus is accounted for, leaving a surplus balance of approximately 39,000,000.

No data of any kind are available with reference to the invisible accounts. There was some income from shipping, particularly in the later years; and the receipts from foreign ships and shipping companies operating in Japanese ports probably exceeded the outlays of Japanese ships abroad. On the other hand, there was an outgo for earnings of foreign merchants and traders; Japanese travellers probably took out slightly more than foreign travellers brought in; insurance payments abroad were appreciable; and government expenditures for naval, military, and diplomatic purposes had assumed considerable proportions. There may well have been a net outgo on account of these miscellaneous items which would have absorbed a considerable part of the 39,000,000 yen of unaccounted surplus. The discrepancy may also be in part explained by inaccuracies in the trade figures. In any event, the comparatively close correspondence between the indebtedness figures and the known net international deficit gives support to the view that the trade figures are not seriously in error. A discrepancy amounting at the most to a little over 1,000,000 yen a year is equal to only about 2 per cent on the annual average export trade.

B. Current Accounts, 1896-1898

The three-year period, 1896-1898, requires separate consideration: The trade balance shifted from favorable to heavily adverse; there were large imports of specie accompanying the establishment of the gold

standard in 1897; and Japan received a large indemnity from China. The remainder of the government loan, which stood at the end of 1895 at 2,407,000 yen, was liquidated; but, on the other hand, in 1897 the government sold abroad 43,000,000 yen of loans that had been floated in the domestic market. Thus, the foreign indebtedness increased by about 40,000,000 yen.

The trade, specie, and interest deficits for the three-year period were as follows:

	Thousands of Yen
Trade deficit	221,744
Specie deficit	59,534
Interest deficit	6,000
Total	287,278

This substantial deficit was more than covered by the net increase of indebtedness abroad and by receipts from the Chinese indemnity. As we shall see, however, not all of the war indemnity was transferred to Japan. The precise figures as to the Chinese indemnity are as follows:¹

Items	In Silver Tael	Equivalent in Pounds Sterling
War indemnity	200,000,000	32,900,981
Compensation for the retrocession of Liao Tung	30,000,000	4,935,147
Total	230,000,000	37,836,128
Compensation for the expenses of the occupation of Wei Hai Wei	1,500,000	246,758
Grand total	231,500,000	38,082,886

The indemnity, which was paid in London in pounds sterling, was equal to about 360,000,000 yen. Approximately 50,000,000 yen of this amount was, however, deposited in the Bank of England at the suggestion of

¹ Japanese Department of Finance, *Outline of the Monetary Reform in 1897*.

the British government, which did not favor the export of such large sums at one time. It was, moreover, convenient for Japan to have funds on deposit in London with which to meet foreign obligations, stabilize exchange, and so on. The Bank of Japan could meanwhile count these London deposits as a part of its reserve and issue notes against them for use in Japan, just as though the reserve were held at home.² It is apparent, however, that this 50,000,000 did not for the time being enter into international movements, and hence (at the most) only 310,000,000 yen of the indemnity needs to be included in the balance of accounts. Adding 310,000,000 (indemnity) to 40,000,000 (new indebtedness) makes a total of 350,000,000 yen with which to cover the 287,000,000 of indebtedness on current accounts, leaving a surplus of 63,000,000 yen.

Among the miscellaneous items of current outgo it is certain that there were substantial outlays on account of insurance, and that interest payments on government obligations abroad were considerable. While these may well have exceeded the current income from miscellaneous sources, the balance could hardly have been sufficient to absorb the "available income" shown above.

C. International Debt and Investment Position, 1898

Theoretically this surplus might have gone to build up substantial Japanese investments abroad; but the available evidence does not support this thesis. A survey by the Japanese Foreign Office published in 1915, based on earlier reports from the consulates in China, showed that the only Japanese investment in China in 1897 was in a cotton gin located in Shanghai, with a capital of 100,000 taels, which was owned jointly by Japanese and Chinese. There were ten Japanese persons engaged in mercantile pursuits in Tientsin in the same year, while those operating in Shanghai were

² See Inouye, Junnosuke, *Problems of the Japanese Exchange, 1914-1926*.

estimated to have a turnover of 3,500,000 taels of Chinese products. There was a small amount of Japanese shipping on the inland waterways of China and a few small branches of Japanese banks.

Without attempting to arrive at altogether precise figures, it is clear that at the end of 1898 Japan was neither a net debtor nor a net creditor to any appreciable extent. She owed foreigners some 43,000,000 yen on account of bonds sold abroad, and there were some direct foreigners' investments, principally mercantile, in Japanese port cities. On the other hand, the Japanese had a few minor investments abroad; and a deposit of 50,000,000 yen in London. While this deposit was not available for a long-term investment, it was none the less a foreign credit of real value. Thus at the end of the first 30 years of the modern era Japan was, practically speaking, square with the outside world.

III. INTERNATIONAL ACCOUNTS, 1899-1913

During this period the analysis becomes much more complex. On the one hand, foreigners were increasingly making investments in Japanese securities, public and private, and, on the other hand, the Japanese were beginning to make investments of their own in foreign parts, particularly in Manchuria and China. Hence, the computation of a net interest item becomes complicated and is necessarily less precise. Numerous other items were, moreover, becoming important.

A. Current Income and Outgo

In the table on page 501 we present the outgo on account of trade and specie movements and for interest payments. The interest is given in two columns, the first covering only government issues, and the second including all other interest, and profits. The figures are computed from the indebtedness figures shown in the table on page 494 above. The estimated items com-

prise only about 5 per cent of the total foreign indebtedness, and thus even a substantial error in the estimates would have but a negligible effect upon the total interest obligation. In computing interest, we take for government issues abroad the rates indicated in the table on page 488. For domestic bonds sold abroad we take 5.5 per cent; and for local government and corporate securities we take 6 per cent (see the tables on pages 490 and 492), deriving thereby merely approximate figures. For profits on foreign investments in Japanese enterprises, we assume an average rate of 8 per cent.

AGGREGATE INTERNATIONAL OUTGO ON TRADE, SPECIE, AND
INTEREST ACCOUNTS, 1899-1913
(In thousands of yen)

Period	Net Trade	Net Specie Movement	Interest on National Debt	Other Interest and Profits	Total
1899-1903.....	132,831	2,788	34,898	553	171,070
1904-1908.....	334,198	— 34,895*	245,967	18,159	563,429
1909-1913.....	242,243	4,427	342,735	85,202	674,607
1899-1913.....	709,272	— 27,680*	623,600	103,914	1,409,106

* Net income.

Numerous other items entered into the outgo accounts during this period; and in most cases we are able to make rough estimates as to the probable amount.

1. *Insurance.* Figures compiled by the Department of Finance for 1913³ show an income, under the heading "insurance claims paid and premiums," of 5,700,000 yen, and on the expenditures side a similar item of 6,800,000 yen. The item on the income side means that foreign insurance companies settled claims due in Japan, and also that some Japanese companies were

³ For discussion of this investigation, see p. 510; and for the data see pp. 528-32.

receiving premiums from foreign clients; and vice versa for the expenditures side. In the chapter on insurance, we found that insurance companies developed rapidly in Japan after 1901, when foreign insurance companies were subjected to restrictive regulations. As Japanese insurance grew, the amount of insurance premiums paid to foreigners would tend to decrease, while the claims paid on insurance previously placed would not decrease as rapidly. Accordingly, we believe that outgo in connection with insurance was tending to decrease relatively to the item of income from insurance. In 1913 the excess of **outgo** over income was 1,100,000 yen. Assuming an annual average of 1,350,000 for the 15-year period, we would have a total of approximately 20,000,000 yen.

2. *Expenditures of Japanese ship owners.* The Finance Department accounts for 1913 (page 529) show an item under this heading on the expenditure side amounting to 17,900,000 yen, and a corresponding item on the income side under the heading "expenditures by foreign ship owners in Japanese ports," amounting to 14,400,000 yen, giving a net outgo of 3,500,000 yen. This balance probably shifted from favorable to adverse during this period, since the Japanese merchant marine doubled in size. For the period as a whole the net outlay on this account may have reached a magnitude of 30,000,000 yen.

3. *Dividends on foreign investments in Japan.* During this period a considerable volume of investment was being made in Japanese enterprises by foreigners. For 1913 the outgo was set down by the Finance Department as 7,700,000 yen (see page 529). Since these investments developed chiefly after the Russo-Japanese War, the payments probably did not average more than 2,000,000 yen a year, or 30,000,000 yen for the entire period.

4. *Government expenditures abroad.* The government made heavy expenditures abroad for naval,

military, and diplomatic purposes. The Finance Department for 1913 gives a total of 22,300,000 yen for this account. Since the scale of these expenditures increased very greatly during and after the Russian War, it is probable that the average annual outlay for the period as a whole was not more than 10,000,000 yen, or an aggregate of 150,000,000 yen.

There are also a number of items showing net income which may be estimated with some degree of reliability. Indeed, the first two are definitely recorded figures.

1. *Maintenance of prisoners during the Russian War.* Under the terms of the Treaty of Portsmouth, Russia and Japan agreed to reimburse each other for the expenses of the maintenance of prisoners of war. In due course, Japan received net on this account the sum of 47,450,000 yen.

2. *The Boxer indemnity.* The total indemnity amounted to 450,000,000 taels, of which Japan's share was 34,793,100 taels, equivalent to 48,950,892 yen. Interest was payable on the capitalized sum at 4 per cent annually. Interest and amortization payments were begun in 1902 and were to be made on the following schedule:

	Annual Payment
1902-1910	18,829,500 taels
1911-1914	18,899,300 "
1915	23,283,300 "
1916-1931	24,483,800 "

The payments ceased from December 1, 1917 to November 30, 1922.⁴ For discussion of the final disposition of this fund, see page 523. Japan's share of the total payments between 1902 and 1913 was approximately 24,000,000 yen.

3. *Interest from foreign bank balances.* At the time the Chinese indemnity was paid the Japanese government and the Bank of Japan began, as already noted, to hold substantial balances abroad, chiefly in the form

⁴ See *China Year Book*, 1926, p. 499.

of bank deposits. The figures as to the precise amounts held abroad from 1899 to 1902 are not available; but since the beginning of 1903 they have been published regularly.⁵ We may assume the rate of interest on these deposits to have averaged about 2 per cent a year. While the amounts fluctuated somewhat in the course of any given year, we shall be close to the precise interest earned if we apply a rate of 2 per cent to the amount outstanding at the end of each year. For the period 1903-1913 total interest receipts would thus amount to about 60,000,000 yen. Perhaps 2,000,000 yen might be added to this for the preceding four-year period, making a total of 62,000,000 yen.

4. *Remittances, and profits from Japanese enterprises abroad.* During the later years of this period, the Japanese had considerable investments in foreign enterprises, principally in China and Manchuria. The Finance Department figures for 1913 show an income item under the heading "remittances from Japanese residents abroad and profits from Japanese business enterprises overseas" of 51,000,000 yen, while on the expenditures side is an offsetting item of 7,700,000 yen for "expenses of Japanese enterprises abroad." We cannot separate the remittances from Japanese residents from the profits, but as the volume of Japanese emigration had not been great, the former probably did not account for half the total. Since expenses were doubtless larger in proportion to the return in the early stages of these investments, particularly in Manchuria, the annual net return for the years 1909-1913 probably did not exceed 25,000,000 yen. During the first ten years the income from this source was very much smaller and did not perhaps exceed 5,000,000 yen annually. This would make a total of 175,000,000 yen for the 15-year period for profits and remittances.

5. *Receipts from foreign residents and tourists.* This item may conveniently be compared with the

⁵ For the annual figures for the entire period, 1903-1929, see page 539.

reverse item of "expenditures by Japanese subjects abroad." The Finance Department figures for 1913 show receipts of 16,700,000 yen, as compared with 8,800,000 of expenditures. It is probable that the tourist trade to Japan expanded markedly after the Russo-Japanese War; and, on the other hand, as the Japanese came to depend less upon foreign study and travel their expenditures abroad may not have increased greatly, notwithstanding the increase in total population and the general rise of prices. It is probable, however, that for the period as a whole there was a net income from these accounts amounting to something like 30,000,000 yen.

6. *Shipping.* In computing the earnings from shipping, certain technical considerations must be borne in mind. Exports are valued f.o.b. (free on board) port of loading; thus the shipping charges are not included in the value of the exports. They are, in fact, paid by the importing country. Hence, if exports are carried in foreign vessels, they create no freight charge against Japan; but if Japanese ships carry exports, the earnings are due from foreigners.

Imports, on the other hand, are valued c.i.f. (cost, insurance, freight) destination. Freight charges are therefore included in the import values. When carried in Japanese ships, however, the net cost of the imports to the Japanese people is in effect reduced by the amount of the freight charges because the freight charges paid by Japanese importers are received by Japanese ship owners. Since, however, the freight is already comprised in the trade figures, the shipping fees must be set down as an item of income. In short, all foreign trade carried in a nation's own ships gives rise to income, while all foreign trade carried in foreign ships is accounted for in the trade figures. The same principle applies with insurance on cargoes.⁶

⁶ In computing the balance of accounts for Japan, S. Y. Furuya, in *Japan's Foreign Exchange and Her Balance of International Payments*, 1928, makes an adjustment or "correc-

The statisticians of the Finance Department, we are glad to learn, have made their shipping estimates in accordance with this principle.

The Finance Department's estimate of shipping earnings for 1913 is 42,000,000 yen. The Japanese merchant marine was developing rapidly during the 15-year period, the gross tonnage, including all vessels of over 20 tons, averaging 884 tons in 1899-1903; 1,347 tons in 1904-1908, and 1,769 tons in 1909-1913. The

INTERNATIONAL INCOME AND OUTGO, 1899-1913

(In thousands of yen)

OUTGO

Trade, specie, and interest (See table, page 501).....	1,409,106
Insurance	20,000
Expenditures of ship owners.....	30,000
Dividends on foreigners' investments.....	30,000
Government expenditures abroad.....	150,000
	<hr/> 1,639,106

INCOME

Maintenance of prisoners	47,450
Boxer indemnity	24,000
Interest from specie balances.....	62,000
Remittances, and profits from enterprises abroad	175,000
Receipts from foreign residents and tourists.	30,000
Shipping earnings	350,000
	<hr/> 688,450
Net outgo	<hr/> 950,656

quality of the tonnage was steadily improving, and international shipping rates were rising during this period—Hobson's index advancing from 92.7 in 1898 to 131.7 in 1912. For these reasons it is apparent that

tion" of the trade figures because the imports are c.i.f. He subtracts 4 per cent (estimated percentage for insurance and freight) from the imports, in order to place exports and imports on the same basis. Such a procedure is justifiable only if the official estimates of shipping earnings are then adjusted proportionately; but Mr. Furuya uses the Finance Department shipping estimates without adjustment.

the shipping earnings for the 15-year period would have averaged very much less than the 1913 figure. An average of less than 25,000,000 yen a year for the whole period is perhaps a reasonable estimate, or a total of approximately 350,000,000 yen.

The summarized estimates of the current income and outgo for the period as a whole are given on page 506. This excess of more than 950,000,000 yen of current outgo over current income must of course have been covered by capital transactions. Accordingly, we must now make comparison with the international debt and investment figures.

B. Current Capital Transactions

The foreign debt figures given on page 494 indicate that Japanese securities, government and private, were purchased abroad during those years to the nominal or face value of approximately 1,926,000,000 yen. The table on page 488, however, indicates that the government loans were floated considerably below par, and the same was doubtless true of local government and private loans, though we have no precise information. Moreover, since no independent item for commissions is included elsewhere, allowance must be made for underwriting commissions paid, which probably averaged about 4 per cent. The yield to Japan on these loans as a whole probably did not average more than 90 per cent of the face value, giving total receipts of 1,733,000,000 yen.

In addition to these investments in securities, direct foreign investments in Japanese enterprises must have approximated 100,000,000 yen, inasmuch as the estimated outgo for profits in 1913 (7,700,000 yen, page 529) would be equal to about 8 per cent on this amount. Thus Japan received, by way of loans and investments, approximately 1,833,000,000 yen.

This sum exceeds the adverse balance on current income and outgo accounts of 951,000,000 yen by approximately 882,000,000 yen. As an offset against

this balance, however, we know that bank deposits abroad increased between 1899 and the end of 1913 by about 227,000,000 yen (see page 539). Hence there remained roughly 655,000,000 yen with which to make investments abroad.

We may now check this figure by reference to the estimated income from foreign investments for the year 1913 as given in the figures of the Finance Department (see page 528). The estimate was 51,000,000 yen for profits from business enterprises and remittances from Japanese residents abroad. As already pointed out, the remittances could not have accounted for many millions of this total. Assuming the profits on these foreign investments to have averaged 8 per cent, the 655,000,000 yen of investments would have yielded approximately 52,500,000 yen. Our estimate of 655,000,000 yen may be somewhat high, in view of the fact that it is exclusive of the South Manchuria Railway, whereas the government's figure of estimated income also includes a return from 100,000,000 yen of investment in this company. The reason why this item does not enter into our computation is that the acquisition of this investment did not involve international payments, and thus did not affect the balance of accounts. When this railway became the property of Japan in 1907, the capital value was estimated at 100,000,000 yen, and this sum was simply entered as a credit on the books of the Japanese government.

It remains to point out that certain Japanese estimates of investments at the end of 1913 have been made by different methods from the one employed above and with which the author was not acquainted when the foregoing computation was made. An unpublished estimate of Japanese foreign investments for July, 1914, made by technical experts of the Bank of Japan, shows a total of 461,000,000 yen, including the

investment in the South Manchuria Railway Company. Of this total, 54,700,000 yen represented loans to China, 6,450,000 yen foreign securities purchased, and 400,000,000 investments in business enterprises abroad. Of the latter 310,000,000 were assigned to China, including Manchuria, and 50,000,000 to Hawaii and the United States, leaving 40,000,000 yen for other regions.

Another estimate of Japanese loans to China has recently been made by Professor Carl F. Remer, with the collaboration of a Japanese committee of the Institute of Pacific Relations, consisting of Akira Nagano and Shizuo Kirai.⁷ They obtain a total of 415,000,000 yen, consisting of:

	Yen
Japanese share of the Reorganization loan of 1913..	50,000,000
Other loans (chiefly railway).....	15,399,000
Business investments (known).....	328,647,820
Other business investments (estimated).....	21,000,000
	<hr/>
	415,046,820

If this figure of the Japanese loans and investments in China is correct, the total foreign investments for 1913 would be 505,000,000 yen—415,000,000 in China, 50,000,000 in Hawaii and the United States, and 40,000,000 elsewhere.

In the light of our own computations and these other estimates of foreign investments we are inclined to believe that the total foreign investments of Japan in 1913 amounted to something like 600,000,000 yen, including that in the South Manchuria Railway Company. In addition, foreign bank balances amounted to about 246,000,000 yen. While these funds lacked the character of permanent investments, they yielded interest and are properly to be regarded as foreign assets.

⁷ Part of a general study of foreign investments in China, as yet unpublished.

C. International Debt and Investment Position, 1913

The foreign debt and investment position of Japan at the end of 1913 is summarized in the table below:

Indebtedness:	Thousands of Yen
Foreign loans	1,969,684
Foreign investments in Japan.....	100,000
	<hr/> 2,069,684
Investments:	
Investments abroad	600,000
Specie holdings abroad	246,175
	<hr/> 846,175
Net foreign indebtedness	<hr/> 1,223,509

IV. INTERNATIONAL ACCOUNTS, 1914-1919

The accounts for the war period present greater difficulties than those for earlier years because of the growing complexity of Japan's international commercial and financial relations. However, we have available much more complete data on the invisible, or service, items, the Finance Department having begun shortly before the war the systematic assembling of data. The practice of publishing these data, however, was not begun until 1923, since which date they appear annually. The figures for the years 1913 to 1922 were made public by Junnosuke Inouye, then governor of the Bank of Japan, in an address before the Tokyo Commercial College. These figures for the entire period 1913-1929 are given on pages 528-32. Data are also available for most of the capital transactions that occurred during the war years.

A. Current Income and Outgo

The Finance Department's figures for the years 1913 to 1922 may be regarded as slightly less precise than those for recent years, but they afford, nevertheless, a very good basis for gauging the momentous changes that occurred in Japan's international economic position during the period of the World War. As in previous years, the most important items are of definite

INTERNATIONAL INCOME AND OUTGO, 1914-1919
(In thousands of yen)

I. Income

Year	Net Trade	Shipping	Expenditures of Foreign Ships in Japanese Ports	Government Receipts	Interest and Profits ^a	Miscel- laneous ^b	Total
1914.....	- 4,634 ^c	43,300	11,800	18,700	48,100	22,300	139,566
1915.....	175,857	61,900	8,000	71,500	49,400	33,100	399,757
1916.....	371,940	175,800	9,500	101,600	87,000	67,100	812,040
1917.....	567,193	294,900	12,700	80,500	126,600	160,100	1,241,993
1918.....	293,956	495,100	10,800	63,600	160,600	165,200	1,189,256
1919.....	- 74,587 ^c	437,500	18,500	52,200	191,500	215,300	840,413
Total.....	1,328,825	1,508,500	71,300	388,100	663,200	663,100	4,623,025

II. Outgo

Year	Net Specie Movement	Port Expenses of Japanese Ships Abroad	Government Payments	Interest and Dividends ^a	Profits	Miscel- laneous ^a	Total
1914.....	- 20,306 ^c	16,100	15,400	88,300	8,700	22,200	130,394
1915.....	- 20,150 ^c	20,300	15,300	86,400	7,400	25,400	184,650
1916.....	73,136	27,400	17,800	74,700	7,700	36,400	237,136
1917.....	238,426	33,800	20,400	75,900	9,700	79,500	457,726
1918.....	4,142	50,800	52,500	73,900	11,100	129,000	321,442
1919.....	322,443	74,700	101,200	80,900	10,800	143,000	733,043
Total.....	597,691	223,100	222,600	480,100	55,400	435,500	2,014,391

^a Includes remittances from Japanese residents abroad. The profits are actual receipts.

^b Includes tourist income, insurance and miscellaneous receipts.

^c Minus sign indicates net outgo.

^d Includes interest on government loans, and interest and dividends on private securities.

^e Includes expenditures by Japanese abroad, insurance payments, expenses of Japanese enterprises abroad, and "other." Minus sign indicates net income.

record; and the estimates for such items as shipping, insurance, and business profits are based on returns from operating companies. In the table on pages 528-32 are presented the sub-items which make up the larger classes, the very number of items indicating the care that has been taken to procure complete and inclusive data.

During the war years, there was a very large trade surplus, though the balance turned adverse again in 1919. Earnings from shipping increased tenfold, thanks to the doubling of tonnage and operation at full capacity and at high rates. Government receipts increased markedly, owing to the foreign loans that were made (see page 511) and the building up of large government and bank balances abroad made possible by the favorable balance and made necessary because of the gold embargoes of Europe. Private investments increased steadily and insurance receipts showed a similar expansion.

On the outgo side, the most important items are government payments, consisting of interest on foreign loans—in diminishing amounts—and miscellaneous outlays for naval and military expenditures, notably fuel and explosives, and diplomatic expenses, cable charges, etc. The summarized figures for both income and outgo are presented here, the full details being shown on pages 528-32.

For the war period as a whole there was a very large excess of income from current trade and service operations. Subtracting the aggregate outgo of 1,416,700,-000 yen from the aggregate income of 4,025,334,000 yen leaves a net surplus of 2,608,634,000 yen. This sum, assuming the data to be approximately correct, was available either for the liquidation of outstanding loans, or the making of new loans and investments abroad.

B. Current Capital Transactions

The loan table on page 494 indicates that outstanding obligations were reduced during this period

to the extent of 247,713,000 yen, chiefly as the result of paying off national government loans. On the other hand, large loans were made by the Japanese government to foreign governments; specie holdings abroad were enormously increased; and numerous private loans were made to foreign companies.

The government loans to the allied governments are shown in the table on page 514. The total of these aggregated a face value of 657,000,000 yen. The prices at which they were floated and the amounts paid are not known, but the discount probably averaged about 6 per cent, which would make the outgo about 618,000,000 yen. However, the loan of December, 1916, to Great Britain was repaid in December, 1919, which reduces the net outgo for the period to 518,000,000 yen.⁸

During this period a large number of loans were also made by Japanese interests to Chinese government agencies and private enterprises. The details covering all Japanese loans to China for the entire period 1909–1929 are given in the table on page 534. During the years 1914–1919 the face value of the loans made to governments and enterprises was as follows:

	Thousands of Yen
The central government and its agencies.....	174,975
Provincial governments	60,000
Private enterprises	150,000
Total	384,975

Of the loans made during these years to the central government only 10,500,000 yen may be classed as secured loans; that is, backed by valuable special pledges of revenues. All these loans to China were floated considerably below par, probably not yielding to the Chinese people more than 90 per cent of the face value. Hence the Japanese people probably parted with

⁸ One French loan, amounting to 2,818,000 yen was not made until October, 1920; but since the amount is small we include it here rather than in the accounts for succeeding years.

something like 346,000,000 yen. Since approximately 10,000,000 yen of these debts was apparently repaid

ALL JAPANESE GOVERNMENT LOANS TO ALLIED GOVERNMENTS
(In thousands of yen)

Borrower and Form of Loan	Loan		Repayment	
	Face Value	Date	Amount	Date
GREAT BRITAIN	283,430	—	283,430	—
Treasury bills... (Paid in dollars)	97,630	July-Aug. 1916	{ 39,052 29,289 29,289	.... 1920 1921 1922
Exchequer bonds	100,000	Dec. 1916	100,000	Dec. 1919
Treasury bills...	80,000	Aug. 1918	{ 15,800 20,000	Jan. 1920 July 1920
" "	5,800	Jan. 1919	{ 50,000	Jan. 1921
FRANCE	133,160	—	133,160	—
Exchequer bonds	50,000	July 1917	{ 25,000 25,000	July 1924 Dec. 1924
" "	26,242	Oct. 1917	{ 13,160 20,000	Oct. 1922 Oct. 1924
" "	1,976	Oct. 1918		
" "	2,124	Oct. 1919		
" "	2,818	Oct. 1920		
" "	50,000	Nov. 1918	50,000	Nov. 1923
RUSSIA	240,053	—	Total in default	
Treasury bills...	50,000	Feb. 1916	Renewed	Feb. 1917
" "	15,500	" "	"	Oct. 1917
" "	51,167	Oct. 1917	—	—
" "	70,000	Sept. 1916	Renewed	Sept. 1917
" "	35,000	" 1917	—	—
" "	12,152	Jan.-Aug. 1917	—	—
" "	551	Jan.-Aug. 1917	—	—
" "	5,683	Jan.-Aug. 1917	—	—
GRAND TOTAL	656,643	—	416,590	—

during these years (see table, page 536), the net outgo was about 336,000,000 yen.

In addition to the loans made abroad, Japan also accumulated very large balances in foreign banks.



During the war period the embargo on gold shipments from other countries made it impossible for Japan to receive gold in payment of her favorable balances, and so the proceeds were left on deposit in foreign banking institutions, principally in London. Reference to the table on page 539 indicates that the balance increased between 1914 and 1919 by approximately 1,096,000,000 yen.

The foregoing capital transactions may be summarized as follows:

	Thousands of Yen
Loans to allies (net outgo).....	518,000
Loans to China (net outgo).....	336,000
Increase of foreign bank balance.....	1,096,000
Liquidation of foreign obligations.....	246,000
Total outgo	2,196,000

The surplus in the international accounts was 2,609,000,000 yen; hence 413,000,000 yen remain unaccounted for. Assuming the figures given above to be approximately correct, this sum was theoretically available for new investments abroad—in addition to the private loans to China, which have already been included. New investments of foreigners in Japan were negligible during the war period.

It is known that there were substantial increases in direct investment in China and Manchuria during this period and also in other parts of the Orient, particularly in the South Pacific Islands. An increase amounting to as much as 400,000,000 yen therefore appears not impossible. In 1913, it will be recalled, private loans and investments abroad equalled approximately 600,000,000 yen, of which loans comprised about 65,000,000 yen (page 508). Total direct investments outstanding in 1919 would thus be about 935,000,000 yen. The substantial accuracy of this estimate is supported by the estimated profits received during the year 1919. Of the 131,800,000 yen included under the item "remittances from Japanese residents and profits from

business enterprises overseas," something in the neighborhood of 80,000,000 yen may be regarded as attributable to profits, which represents a return of 9 per cent on 900,000,000 yen of investment. If this seems a liberal estimate, it must be recalled that 1919 was a year of great boom when profits were exceptionally high.

C. International Debt and Investment Position, 1919

The net result of all the international transactions of the war period upon Japan's position is shown by the following balance sheet for 1919. It will be observed that instead of being a net debtor to the extent of 1,224,000,000 yen, as in 1913, Japan had become a net creditor to the extent of approximately 1,400,000,000 yen.

INTERNATIONAL DEBT AND INVESTMENT POSITION, 1919 (In millions of yen)

INDEBTEDNESS	
Foreign loans	1,722 ^a
Foreign investments in Japan	100
	<hr/> 1,822
INVESTMENTS	
Japanese loans to allied governments	557 ^a
Japanese loans to China (to the central and the provincial governments)	236 ^b
Private loans and investments	1,085 ^c
Specie holdings abroad	1,343
	<hr/> 3,221
Net foreign assets	<hr/> 1,399 ^a <hr/>

^a Total outstanding December 31, 1919.

^b Includes all loans listed in the table on page 534, of which 61,320,000 yen were outstanding in 1913 and were thus included in the total loan and investment figure of that year.

^c Includes 1913 estimate of 600,000,000 yen (p. 508) less loans of 65,000,000 yen (p. 507); but it does not include the Boxer indemnity.

This table does not, as a matter of fact, fully reveal the change that occurred in Japan's general position. It includes the specie holdings accumulated abroad,

but it does not indicate the substantial increase in the country's gold supply held at home. Between the end of 1915 and the end of 1919, Japan imported over 600,000,000 yen in gold, which served to strengthen her banking resources and indirectly to improve her international financial position. The importation of so large an amount of gold has been severely criticized as a matter of policy, some holding that it should have been utilized in the liquidation of foreign indebtedness. In any event, it is clear that it cannot be ignored in estimating the general changes that occurred in Japan's financial status during the war period.

V. INTERNATIONAL ACCOUNTS, 1920-1929

We divide the period since 1919 into two intervals for the reason that beginning with 1923 the Finance Department publishes more detailed figures than before.

A. Current Income and Outgo, 1920-1922

In the table on page 518 we show the principal classes of international income and outgo for the three years 1920-1922. For detailed figures on the invisible items, see pages 528-32.

Chiefly as a result of the heavy adverse trade balances, the current international outgo exceeded the income to the extent of 797,856,000 yen.

B. Current Capital Transactions, 1920-1922

The known capital transactions during this period were as follows: On the receipts side, allied government loans were repaid to the extent of 196,590,000 yen (see page 514), and specie holdings abroad were drawn down to the extent of 727,617,000 yen (see page 539), making total receipts of 924,207,000 yen. On the other side, government and private indebtedness abroad (see page 494) decreased by 171,878,000 yen. The excess of receipts was thus 752,329,000 yen.

Attention must, however, be called to a transaction which, while increasing the foreign indebtedness,

INTERNATIONAL INCOME AND OUTGO, 1920-1922
(In thousands of yen)

I. Income

Year	Ships and Shipping ^a	Govern-ment Receipts	Interest	Profits and Remit-tances	Insurance	Foreigners' Expendi-tures	Miscel-laneous	Total
1920.....	367,500	65,000	50,500	126,100	105,800	55,600	66,700	837,200
1921.....	216,900	68,600	46,000	110,800	82,200	37,800	—	562,300
1922.....	172,900	51,700	28,700	106,300	76,600	38,600	5,100	479,900
Total.....	757,300	185,300	125,200	343,200	264,600	132,000	71,800	1,879,400

II. Outgo

Year	Net Trade	Net Specie Move-ment	Expenses of Japanese Ships Abroad	Govern-ment Payments	Interest and Dividends ^b	Profits	Insurance	Tourists' Expendi-tures	Miscel-laneous	Total
1920.....	387,780	416,075	100,500	80,000	87,300	15,300	97,700	28,400	17,200	1,230,255
1921.....	361,317	141,309	76,800	57,400	70,600	17,900	76,400	26,500	40,900	869,126
1922.....	252,856	— 281 ^c	61,900	91,800	60,300	10,300	68,300	28,000	4,700	577,875
Total.....	1,001,953	557,103	239,200	229,200	218,200	43,500	242,400	82,900	62,800	2,577,256

^a Includes Japanese shipping earnings and expenditures of foreign ship owners in Japanese ports.

^b Includes interest on national government loans. ^c Net income.

served simultaneously to increase investments abroad. On December 1, 1920, the Japanese government assumed a direct obligation on £12,000,000 of South Manchuria Railway Company debentures, issued in 1907, 1908, and 1911 (see page 488), and which hitherto were merely a contingent liability of the government. As compensation for taking over the obligation on these bonds, the government received from the South Manchuria Railway Company 117,156,000 yen of stock in that company. Inasmuch as the table showing the total volume of indebtedness outstanding at the end of each year includes this new obligation, the stock acquired as compensation must be brought into the picture as an offsetting foreign asset.

The excess of current outgo over current income from trade and service operations equalled 797,856,000 yen. This is approximately 45,000,000 yen in excess of the net receipts from capital transactions, exclusive of the stock acquired in the South Manchuria Railway Company. This difference might be accounted for either by a decrease of Japanese investments abroad, or by an increase of foreign investments in Japan.

The item "remittances from Japanese residents abroad and profits from Japanese business enterprises overseas" (see page 528) shows a slight reduction for these years; but this is presumably accounted for by the decline in the rate of profits between the boom year 1919 and the depressed year 1922. On the other hand, the fact that there was a slight increase in the item "profits of foreign business enterprises in Japan remitted abroad" would indicate a slight increase of foreign investments in Japan; and this probably accounts for the 45,000,000 yen in question.

C. Current Income and Outgo, 1923-1929

During these years, the balance of the ordinary income and outgo items was continuously adverse, as is shown by the following table, which gives the principal items. For detailed figures on the invisible items, see pages 528-32.

INTERNATIONAL INCOME AND OUTGO, 1923-1929
(In thousands of yen)

I. Income

Year	Specie Movement (net)	Ships and Shipping ^a	Government Receipts	Interest	Profits and Remittances	Insurance	Foreigners' Expenditures	Miscellaneous	Total
1923.....	5,144	164,691	31,921	28,017	112,039	75,599	35,877	12,576	485,864
1924 ^b	— 4,121 ^b	185,479	24,352	20,359	123,044	104,267	47,948	33,115 ^c	534,443
1925.....	21,871	195,776	20,566	18,850	133,198	117,330	47,005	17,214	571,810
1926.....	34,008	192,260	24,029	13,196	122,125	92,177	47,873	17,576	543,244
1927.....	40,968	199,470	11,751	23,108	120,990	96,441	50,169	16,994	559,891
1928.....	629	216,992	8,687	20,483	113,797	110,771	53,058	26,789	551,206
1929.....	2,630	238,534	13,208	18,787	133,254	119,988	57,983	18,320	602,704
Total.....	101,129	1,393,202	134,514	142,800	858,447	716,573	339,913	142,584	3,829,162

II. Outgo

Year	Trade (net)	Japanese Shipping Expenses	Government Payments	Interest and Dividends ^a	Profits Remitted	Insurance	Tourists' Expenditures	Miscellaneous	Total
1923.....	534,479	60,087	62,360	66,053	6,124	68,574	27,055	671	825,403
1924.....	646,367	67,682	80,845	82,469	6,676	89,033	28,843	1,058	1,002,973
1925.....	267,068	66,900	87,000	106,201	6,864	97,033	27,292	3,731	662,089
1926.....	332,756	67,201	66,861	103,985	8,939	90,014	25,195	7,027	701,978
1927.....	186,836	67,005	64,291	99,643	6,335	95,390	33,115	4,794	557,909
1928.....	224,359	78,702	47,088	98,853	12,173	106,019	37,766	8,709	613,669
1929.....	67,621	79,359	58,024	102,868	14,226	114,839	42,718	7,177	486,832
Total.....	2,259,486	486,936	466,469	660,072	61,337	661,402	221,984	33,167	4,850,853

^a Includes Japanese shipping earnings and expenditures of foreign ship owners in Japanese ports.

^b Net outgo.

^c Includes in this year 17,754,000 of earthquake contributions.

^d Includes interest on national government loans.

During these years current outgo greatly exceeded current income; the adverse balance in 1924, the peak year, amounting to over 468,000,000 yen. The aggregate deficiency for the seven-year period was 1,021,-691,000 yen.

D. Current Capital Transactions, 1923-1929

Turning now to the capital transactions, we find the following sources of income:⁹

	Thousands of Yen
Increase of foreign borrowings (see page 494)	753,688
British and French war debts redeemed (see page 514)	120,000
Reduction of specie balances (see page 539)	501,483
Earthquake contributions (see page 531)	17,754
New foreign investments in Japan (estimated)	100,000
Total	1,492,925

The first item needs to be reduced somewhat by virtue of the fact that the new loans negotiated abroad were sold at a heavy discount. Reference to the table on page 488 shows that the £25,000,000 national government loan of 1924 was floated at 87.5, and the \$150,000,000 at 92.5, exclusive of commissions. An average yield of about 87 may, therefore, be regarded as reasonable for the entire 753,688,000 yen of new loans floated during this period, which would give net receipts of 656,000,000 yen.

The estimate of increased foreign investments in Japan is derived from the table on page 532, which shows that the outgo on account of such investments increased during this period by about 8,000,000 yen, which capitalized at 8 per cent equals approximately 100,000,000 yen.

Certain new investments were also made abroad during this period. The table on page 534 indicates that loans were made to China in 1925 amounting to 33,000,000 yen, which were apparently not repaid, although

⁹ The data covering the reduction of specie balances are only available through 1928.

their maturity date was 1926. Assuming these loans to have been at a discount of 10 per cent, the Japanese parted with approximately 30,000,000 yen. The table on page 530 indicates that there must have been some new direct investments abroad during this period, since the item "net profits of business enterprises abroad" increased from the end of 1923 to the end of 1929 from 59,778,000 to 80,634,000 yen. A separate figure for 1922 is not available, but since the total for this item, which was then combined with remittances from foreign residents, was only 5,000,000 yen less in that year than in 1923, we may conclude that the income from this source has increased by something like 23,000,000 yen. Assuming a rate of approximately 8 per cent, the increase in investment would have amounted to about 265,000,000 yen.

We have, then, as net receipts from capital transactions 1,395,925,000 yen, and an outgo from capital transactions amounting to 295,000,000 yen. The excess of receipts is approximately 1,100,000,000 yen. Since the total deficit on current income and outgo accounts, as shown by the table on page 520, was 1,021,691,000 yen, it will be seen that the net income from capital transactions was more than sufficient to cover this amount, leaving about 78,000,000 yen still to be accounted for.

The discrepancy may in fact be somewhat larger than this, since the specie balance item is for the end of 1928 instead of 1929. The government did not publish the figures after 1928 because of the uneasiness that existed over the problems incident to the resumption of the gold standard. It is possible that the sum of 114,000,000 yen (see page 539) outstanding at the end of 1928 may have been entirely utilized in 1929, and if so the discrepancy shown above would be proportionally increased. In any event, the disparity between the current accounts and the net changes in the known capital transactions is not very great, and might

largely be accounted for by short-time commercial or floating credits.

E. Indemnities

It is desirable to call attention here to certain foreign assets received by Japan as indemnities. As shown in the table on page 536 the indemnities consist of three items: (a) the Boxer indemnity obligation fixed in 1901, amounting in 1929 to 40,880,424 yen; (b) treasury notes received for the Tsingtao-Tsinanfu Railway, of 40,000,000 yen; and (c) treasury notes for compensation of Tsingtao-Tsinanfu public property and salt industry, amounting to 14,000,000 yen. These two latter obligations were for the adjustment of Japanese claims in connection with former German properties taken over during the World War. Interest has been in arrears since 1924. All of these items are frequently included in Japanese foreign investments. They should, however, be excluded, not merely because of their origin, but because, by an act of 1923 Japan agrees, in common with other countries, to devote the proceeds to cultural works in China, and they are entered in a special account for this purpose.

Another item in the nature of an indemnity is the receipt by the Japanese government, after the Russo-Japanese War, of an investment in the South Manchuria Railway Company amounting to 100,000,000 yen. This has, however, already been brought into our foreign investment figures (page 508).

F. International Debt and Investment Position, 1929

Before drawing up a statement of the investment position for the end of 1929, it is necessary to mention certain foreign assets which did not require a direct transfer of wealth from Japan, and are thus not included in the foregoing accounts. The most conspicuous case is in connection with the South Manchuria Railway. The reserve (surplus) accounts of this company in 1930 amounted to 174,330,000 yen (see balance

sheet, page 541). This sum represents that portion of the earnings from the time the company came into the possession of Japan which was not remitted to Japanese owners, but was retained in Manchuria as an addition to the capital resources. The dividend item included on the receipts side of the Japanese accounts includes only those dividends which were actually remitted. Hence, the additions to capital in the form of surplus are not included in the international balances.

For other companies, we possess no data as to profits directly reinvested. Since in the main these other investments have been made at later dates and under less favorable conditions than those in the Manchurian Railway, it is probable that the reinvestments in the form of surplus accounts have not been very large. Since nearly half of the private investments abroad are in the South Manchuria Railway Company, 75,000,000 yen would appear to be a liberal estimate for the surplus accounts of other companies. This would make a total of 250,000,000 yen for reinvested profits.

We may now present a comparative statement of Japan's international debt and investment position at the end of 1929.

Indebtedness:	Millions of Yen
Foreign loans	2,304
Foreign investments in Japan.....	245 ^a
	<hr/> 2,549
Investments:	
Loans to China (secured).....	94 ^b
Other loans and investments.....	1,717 ^c
	<hr/> 1,811
Net foreign indebtedness.....	<hr/> 738

^aThe sum of 100,000,000 yen (1919 estimate) plus 45,000,000 (1919-1922 estimate) plus 100,000,000 (1923-1929 estimate).

^b Outstanding at end of 1925 (table, page 534).

^cThe sum of 1,085,000,000 (1919 estimate) plus 117,156,000 (stock in Manchuria Railway) (page 519) plus 265,000,000 (1922-1929 estimate) plus 250,000,000 estimated profits reinvested.

In addition there are bad debts as follows:

	Yen
Loans to Russia	240,053,067
Loans to China (to the central and the provincial governments)	270,932,000
Total	510,985,067

All of the Russian bonds are in hopeless default. Of the many loans to the Chinese government only the amount stated in the statement given above is secured in such a way as to warrant any reasonable expectation of repayment. The bulk of the remainder was made during the war years most of them by private institutions, with government encouragement and for essentially political purposes. This was particularly true of the so-called "Nishihara loans." In 1926 the Japanese Diet passed a law requiring the government to take over these loans to the extent of 100,000,000 yen, plus interest. They have thus already been written off as a foreign asset. Many of the loans to Chinese enterprises, included in the statement on page 534, are also of doubtful value.

The period from 1919 to 1929 thus witnessed another great shift in Japan's international debt and investment position. A net creditor in 1919 to the extent of 1,400,000,000 yen, by the end of 1929 Japan had become a net debtor to the extent of 738,000,000 yen—a shift of 2,138,000,000 yen. The country's internal gold position has, however, been strengthened somewhat by virtue of the fact that 230,000,000 yen of the foreign specie balances had been transferred to Japan rather than utilized in meeting foreign obligations.

It remains to compare the above figures with certain other estimates of the amount of Japanese investments abroad which have been made for recent years. The Japan-China Industrial Association, after a careful study, put the total of Japanese investments in China

and Manchuria for 1926 at 1,831,965,000 yen. Professor Carl F. Remer and his associated Japanese committee, above referred to, have computed the total business investments in China and Manchuria for 1928 at 2,027,670,000 yen, of which 1,519,933,000 yen is credited to Manchuria, and 508,737,000 yen to the rest of China. It was distributed by industries as follows:

	Thousands of Yen
Agriculture and forestry	52,312
Mining	191,227
Power	49,982
Manufacturing	482,447
Transportation	590,859
Finance	37,614
General commerce	165,927
Other	457,302
Total	2,027,670

It is probable, however, that some of the loans made by the South Manchuria Railway Company to other enterprises are included twice, and Mr. Remer is inclined to believe that the estimate for investments in textile mills is perhaps 100,000,000 yen too high.

These figures, it will be noted, are for Manchuria and China alone. If investments elsewhere were added these estimates would be increased by something like 200,000,000 yen, making a total of about 2,100,000,000 yen. For the end of 1924, Mr. Inouye¹⁰ estimates 133,955,000 in the South Pacific area, of which 108,896,000 is in plantation undertakings in the Malay Peninsula and the East Indies; 3,684,000 yen in Philippine plantations; and 21,375,000 yen in other undertakings. The value of these plantation investments fluctuates widely with the price of rubber; at present, they would be difficult to sell at any price. Business investments of Japanese (living in Japan) in Hawaii and the United States have probably not greatly increased since 1913, when the amount was estimated at 50,000,000 yen.

¹⁰ *Problems of the Japanese Exchange, 1914-1926.*

We are inclined to believe that estimates by the direct method are likely to give a high figure. Relatively high valuations are likely to be assumed, and there is danger of duplication where investments in certain enterprises are held by other companies whose assets are already included, as in the case of the South Manchuria Railway Company (see list of investments, page 540).

Attention should be called at this place to the fact that throughout the foregoing analysis the international accounts of the colonies have been ignored—except for specie movements which are included with the figures for Japan proper. The trade balance of the colonies with foreign countries, as the appendix tables show, has been heavily adverse, particularly in recent years.

INTERNATIONAL INVISIBLE INCOME AND OUTGO ACCOUNTS, 1913-1922.
(In thousands of yen)

I. Income

Item	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
GOVERNMENT	12,100	18,700	71,500	101,600	80,500	63,600	52,200	65,000	68,600	51,700
PRIVATE	134,100	125,500	152,400	339,400	554,300	831,700	862,800	772,200	493,700	428,200
Freights and charterage..	42,400	43,300	61,900	175,800	294,900	495,100	437,500	337,600	200,800	149,300
Expenditures by foreign shipowners in Japanese ports	14,400	11,800	8,000	9,500	12,700	10,800	18,500	29,900	16,100	23,600
Expenditures by foreign residents and tourists..	16,700	16,000	19,000	27,600	35,700	37,300	49,000	55,600	37,800	38,600
Remittances from Japanese residents abroad and profits from Japanese business enterprises overseas	51,000	45,300	46,400	68,500	89,900	114,800	131,800	126,100	110,800	106,300
Interest from foreign investments and bonds of foreign governments..	3,900	2,800	3,000	18,500	36,700	45,800	59,700	50,500	46,000	28,700
Insurance claims and premiums	5,700	6,300	14,100	21,100	44,000	110,100	101,200	105,800	82,200	76,600
Other	—	—	—	18,400	40,400	17,800	65,100	66,700	—	5,100
TOTAL INCOME	146,200	144,200	223,900	441,000	634,800	895,300	915,000	837,200	562,300	479,900

II. Outgo

Item	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
GOVERNMENT										
Interest on loans	86,900	78,500	79,300	70,100	72,800	102,700	156,600	136,800	114,700	139,400
Other	64,500	63,100	64,000	52,300	52,400	50,200	55,400	56,800	57,300	47,600
	22,300	15,400	15,300	17,800	20,400	52,500	101,200	80,000	57,400	91,800
PRIVATE										
Expenditures by Japanese ship owners abroad	72,800	72,200	75,500	93,900	146,500	214,600	254,000	279,600	251,800	185,900
Expenditures by Japanese subjects abroad	17,900	16,100	20,300	27,400	33,800	50,800	74,700	100,500	76,800	61,900
Profits of foreign business enterprises in Japan re-mitted abroad	8,800	9,200	7,900	10,400	14,100	22,600	35,400	28,400	26,500	28,000
Interest, etc., on foreign investments in Japan remitted abroad	7,700	8,700	7,400	7,700	9,700	11,100	10,800	15,300	17,900	10,300
Insurance claims and premiums	23,700	25,200	22,400	22,400	23,500	23,700	25,500	20,500	13,300	12,700
Expenses of Japanese enterprises abroad	6,800	7,100	14,200	18,900	60,400	98,100	88,300	97,700	76,400	68,300
Other	7,700	5,700	3,100	900	3,100	3,100	2,600	3,600	3,000	4,000
	200	200	200	6,200	1,900	5,200	16,700	13,600	37,900	700
TOTAL EXPENDITURE	159,600	150,700	154,800	164,000	219,300	317,300	410,600	416,400	366,500	325,300

* Compiled by the Japanese Department of Finance.

INTERNATIONAL INVISIBLE INCOME AND OUTGO ACCOUNTS, 1923-1929 *
(In thousands of yen)

I. Income

Item	1923	1924	1925	1926	1927	1928	1929
INTEREST AND DIVIDENDS ON FOREIGN SECURITIES, ETC.							
Interest on foreign government loans.....	28,017	20,359	18,850	13,196	23,108	20,483	18,878
Interest on foreign local government loans and corporation bonds.....	14,952	13,668	11,992	9,942	13,084	11,828	9,335
Dividends on foreign stocks and shares, interest on deposits, etc.....	13,065	914	1,006	458	478	541	567
		5,777	5,852	2,796	9,546	8,114	8,976
YIELD OF ENTERPRISES AND SERVICES ABROAD.....	112,039	123,044	133,198	122,125	120,990	113,797	133,254
Net profits of business enterprises abroad.....	59,778	57,714	80,129	78,294	76,463	63,481	80,634
Remittances of, or money brought home by Jap- anese emigrants and workers.....	52,261	65,330	53,069	43,831	44,527	50,316	52,620
SHIPS AND SHIPPING RECEIPTS.....	164,691	185,479	195,776	192,260	199,470	216,992	238,534
Freight on goods imported.....	58,681	74,486	71,822	76,495	78,245	93,555	102,907
Freight on goods exported.....	24,354	29,070	36,284	34,339	38,064	39,109	44,958
Freight on goods carried between foreign ports..	41,373	51,846	59,655	50,050	54,433	54,764	57,429
Foreign passengers' fares.....	13,136	11,863	13,474	13,950	14,460	13,825	15,037
Charterage.....	940	676	451	273	818	1,499	1,794
Supplies for the use of foreign vessels in Jap- anese ports.....	24,677	14,902	11,314	14,042	11,557	10,745	12,568
Repairing expenses of foreign vessels in Jap- anese ports.....	508	910	992	1,016	468	1,633	1,606

Tonnage dues and pilotage.....	1,022	1,726	1,784	2,095	1,425	1,862	2,235
INSURANCE.....	75,599	104,267	117,330	92,177	96,441	110,701	119,988
Receipts of Japanese marine insurance companies	35,830	52,635	62,113	37,886	45,523	47,851	49,088
Receipts of Japanese life and fire insurance companies	27,723	37,232	37,925	40,204	37,830	49,315	55,588
Receipts from foreign insurance companies.....	12,046	14,400	17,292	14,087	13,088	13,535	15,312
FOREIGNERS' EXPENDITURES IN JAPAN.....	35,877	47,948	47,005	47,873	50,169	53,058	57,983
Tourists' expenditures.....	15,576	24,109	25,830	30,168	30,947	33,353	39,932
Expenditures by crews of foreign vessels.....	1,806	2,205	2,754	2,690	2,712	3,063	3,354
Expenditures of foreign students residing in Japan.....	2,244	1,531	1,310	809	961	1,200	1,291
Missionary expenses.....	10,807	13,103	12,247	8,902	10,233	10,391	8,305
Expenditure of foreign embassies and government offices.....	5,444	7,000	4,864	5,304	5,316	5,051	5,101
GOVERNMENT RECEIPTS FROM ABROAD.....	31,921	24,352	20,566	24,029	11,751	8,687	13,208
MISCELLANEOUS ACCOUNTS.....	12,576	15,361	17,214	17,576	16,994	26,789	18,320
Value of ships sold (not included in trade return)	—	—	2,634	—	—	772	—
Aquatic products exported (not included in trade return)	12,576	15,361	14,580	17,576	16,386	24,552	16,536
Others.....	—	—	—	—	608	1,465	1,784
EARTHQUAKE CONTRIBUTIONS	—	17,754	—	—	—	—	—
TOTAL INCOME	460,720	538,564	549,939	509,236	518,923	550,507	600,165

INTERNATIONAL INVISIBLE INCOME AND OUTGO ACCOUNTS, 1923-1929—(Continued)
(In thousands of yen)

II. Outgo

Item	1923	1924	1925	1926	1927	1928	1929
INTEREST AND DIVIDENDS ON JAPANESE SECURITIES..	66,053	82,469	106,201	103,985	99,643	98,353	102,868
Interest on government loans (including internal loans sold).....	52,337	58,601	67,738	65,236	58,502	56,845	53,980
Interest on local government loans.....	4,896	7,602	7,768	7,457	11,884	12,113	11,724
Interest on corporation bonds.....	2,630	7,388	19,294	22,201	21,728	23,525	28,379
Interest on borrowed money.....	1,175	2,720	3,056	1,972	1,377	1,366	2,062
Dividends on stocks and shares, etc.....	3,700	4,654	6,244	3,988	3,552	3,739	5,804
Interest on deposits.....	1,315	1,504	2,102	3,131	2,600	1,275	919
YIELD OF FOREIGNERS' ENTERPRISES AND SERVICES IN JAPAN	6,124	6,576	6,864	8,939	6,335	12,173	14,226
Net profits of business enterprises.....	2,980	3,110	3,338	5,047	3,078	9,095	10,261
Remittances abroad, etc.....	3,144	3,566	3,526	3,892	3,257	3,078	3,965
EXPENSES OF JAPANESE SHIPS AND SHIPPING COMPANIES	60,087	67,682	66,900	67,201	67,005	78,702	79,359
Expenditure of shipping companies' offices abroad	9,687	7,124	7,249	6,459	7,049	8,702	8,632
Charterage	0	3,464	589	554	501	1,275	889
Supplies for the use of Japanese ships in foreign ports	34,741	28,833	29,773	22,824	18,810	22,602	21,894
Repairing expenses in foreign ports.....	1,297	1,891	1,916	1,222	1,125	1,601	1,523
Tonnage dues, landing and loading expenses, etc..	14,362	26,370	27,373	36,142	39,520	44,522	46,421

INSURANCE	68,574	89,033	97,033	90,014	95,890	106,019	114,839
Payments by Japanese marine insurance companies	23,386	31,297	34,460	31,121	36,641	41,593	41,767
Payments by Japanese life and fire insurance companies	29,561	39,736	42,112	41,589	40,938	45,896	51,835
Payments to foreign insurance companies	15,627	18,000	20,461	17,304	18,311	18,530	21,237
TOURIST AND OTHER JAPANESE EXPENDITURES							
ABROAD	27,055	28,843	27,292	25,195	33,115	37,767	42,718
Tourists' expenditure	13,418	15,000	13,916	17,260	21,079	26,407	30,663
Expenditures by Japanese crews	10,288	10,191	10,455	4,781	5,352	5,319	5,206
Private Japanese students' expenditure	2,856	3,000	2,331	2,731	6,204	5,675	6,246
Other Japanese expenses abroad	493	652	590	423	480	366	603
JAPANESE GOVERNMENT'S EXPENDITURE (other than payment of principal and interest on government loans)	62,360	80,845	87,000	66,861	64,291	47,088	58,024
MISCELLANEOUS ACCOUNTS	671	1,058	3,731	7,027	4,794	8,697	7,177
Articles for use of Imperial Household imported books, newspapers, etc. (not included in trade return)	{ 146	172	107	213	318	11}	1,453
Value of ships bought (not included in trade return)	{ 525	886	1,000	981	1,044	1,216}	1,177
Rental for fishing ground, etc.	0	0	2,624	4,182	1,804	1,802	4,547
	0	0	0	1,651	1,628	5,668	
TOTAL OUTGO	290,924	356,606	395,021	369,222	371,073	389,299	419,211

* Japanese Department of Finance, *Book of Reference on Financial Affairs, 1930.*

CHINESE INDEBTEDNESS
(In thousands)

Type of Obligation	Date Contracted	Maturity Date	Amount of Loan
JAPANESE LOANS TO CHINESE GOVERNMENT			
Secured:^a			
5% Hsinmintun-Mukden Railway loan.	Aug. 1909	Sept. 1927	93,820 320
5% Reorganization Gold loan.....	Apr. 1913	Sept. 1926	50,000
5% Ssuningkai-Changchun Railway, public debentures	Dec. 1915	May 1956	5,000
5% Kirin-Changchun Railway loan.....	Oct. 1917	Oct. 1946	5,500
9% Ssuningkai-Taonan Railway, short-term loan	May 1925	May 1926	32,000
9% Kirin-Changchun Railway loan.....	May 1925	May 1926	1,000
Un secured^b			
19.2% Hanyang Arsenal loan.....	Jan. 1910	Apr. 1910	221,555 300
5% Peking-Hankow Railway loan.....	Mar. 1911	Mar. 1936	10,000
7% Loan for ammunition purchased by Minister of War	Dec. 1915	June 1922	1,822
10% Loan for military equipment purchased by Minister of War	Dec. 1915	Nov. 1915	1,935
10% Treasury notes for military expenses Provisional Government of Nanking	Dec. 1915	Apr. 1920	2,000
7% First Arms loan	Dec. 1917	Sept. 1927	18,716
10% Bureau of Printing and Engraving loan	Jan. 1918	Jan. 1926	2,000
8% Treasury Notes for arms ordered by Shensi; detained by War Participation Bureau	Nov. 1917	Nov. 1922	1,070
9% Telegraph loan.....	Apr. 1918	Apr. 1927	20,000
7½% Advance for construction of Kirin-Huening Railway	June 1918	(d)	10,000
7½% Gold Mines and Forests loan of Kirin and Heilungkiang	Aug. 1918	Aug. 1928	30,000
8% Advance for construction of four Railways in Manchuria and Mongolia.....	Sept. 1918	(d)	20,000
8% Advance for construction of Chi-Shun and Kao-Hsu Railways	Sept. 1918	(d)	20,000
7% War Participation loan.....	Sept. 1918	Sept. 1927	20,000
7% Second Arms loan	Sept. 1918	Sept. 1927	13,365
9% Peking-Suiyuan Railway loan.....	Dec. 1918	Sept. 1927	3,000
8% Loan for ammunition purchased by Minister of Navy	Apr. 1919	Sept. 1923	467
Loan for educational expenses.....	Nov. 1919	Sept. 1923	100
Loan for expenses of Military Attaché, Chinese Legation, Tokyo ^c	Jan. 1920	Sept. 1923	30

TO JAPAN
(of yen)

Amount Out- standing at End of 1925	Interest in Ar- rears at End of 1925	Overdue from	Security	Creditor
95,526 36	2,970 —	—	Railway properties and revenue	South Manchuria Rail- way Company
48,990	—	—	(1) Gabelle revenue (2) Customs	Yokohama Specie Bank (issued in London and Paris)
5,000	—	—	Railway properties and revenue	Yokohama Specie Bank
6,500	—	—	Railway properties and revenue	South Manchuria Rail- way Company
32,000	2,880	...	Railway properties and revenue	South Manchuria Rail- way Company
1,000	90	...	Railway profits	South Manchuria Rail- way Company
210,932 200	15,067 361	July 1920	...	Oriental Trading Com- pany
9,340	1,362	...	Tax revenues—Kiangsu Province	Yokohama Specie Bank
83	102	June 1922	Treasury notes guaran- teed by tobacco and wine licenses	Tai Hei Company
1,188	1,352	Dec. 1915	Treasury notes	Mitsui-Bussan-Kaisha
1,505	1,314	Jan. 1923	Treasury notes	Mitsui-Bussan-Kaisha
18,716 2,589	406 556	Sept. 1920 Jan. 1924	Treasury notes Property of Bureau of Printing and Engrav- ing	Tai Hei Company Mitsui-Bussan-Kaisha
1,070	284	Jan. 1923	Treasury notes	Tai Hei Company
20,000	1,186	July 1924	All property and reve- nue, Chinese Tele- graph Administration	Exchange Bank of China
10,000	376	Dec. 1924	Treasury notes	Bank of Taiwan, Bank of Chosen, and Indus- trial Bank of Japan
30,000	1,164	July 1924	Gold mines, forests, and revenues, Kirin and Heilungkiang provinces	Exchange Bank of China
20,000	815	Oct. 1924	Treasury notes	Bank of Taiwan, Bank of Chosen, and Indus- trial Bank of Japan
20,000	815	Oct. 1924	Treasury notes	Bank of Taiwan, Bank of Chosen, and Indus- trial Bank of Japan
20,000	416	Sept. 1920	Treasury notes	Bank of Taiwan, Bank of Chosen, and Indus- trial Bank of Japan
13,365 2,200	290 1,121	Feb. 1919 ...	Treasury notes Chinese government bonds	Tai Hei Company East Asia Industrial Company
467	260	Apr. 1920	...	Mitsubishi Trading Company
100	55	Feb. 1922	...	Bank of Taiwan
30	15	July 1920	...	Mitsubishi Bank

CHINESE INDEBTEDNESS
(In thousands)

Type of Obligation	Date Contracted	Maturity Date	Amount of Loan
8 % Loan for materials, Training Camp Frontier Defense Army	May 1920	Nov. 1921	50
8 % Treasury notes for insurance on shipment of ammunition for North-West Expedition	May 1920	May 1921	91
8 % Shensi Copper Mint loan	Sept. 1920	Dec. 1925	3,000
8 % Treasury notes, Hua Ning Company	Apr. 1921	Nov. 1925	1,000
8 % Internal \$96,000,000 loan (Japan's share)	1922	1929	39,609
10 % Peking-Suiyuan Railway loan	Apr. 1921	Nov. 1924	3,000
TOTAL			315,375
JAPANESE LOANS TO PROVINCIAL GOVERNMENTS			60,000
JAPANESE LOANS TO PRIVATE ENTERPRISES (estimated)			150,000
OBLIGATIONS TO JAPAN NOT RESULTING FROM LOANS			
4 % Boxer indemnity	July 1901	... 1945	48,954
6 % Treasury notes of the Tsingtao-Tsinanfu Railway	Dec. 1922	Mar. 1938	40,000
6 % Treasury notes for compensation of Tsingtao-Tsinanfu public property and salt industry	Mar. 1923	.. 1938	14,000
TOTAL OBLIGATIONS OTHER THAN LOANS			102,954
ALL OBLIGATIONS			628,329

* Some of the other loans are nominally secured, but in this list are included
 b In addition to the loans here listed, loans for meeting interest instalments in 1925. They are not included in the table, first, because they represent no outlay of interest not covered by loans.

* 1.6 per cent per month.

d Conclusion of formal contract.

* 2.06 sen

TO JAPAN—(Continued)
of yen)

Amount Out- standing at End of 1925	Interest in Ar- rears at End of 1925	Overdue from	Security	Creditor
50	22	May 1921	No security	Tai Hei Company
91	40	May 1921	Treasury notes	Tai Hei Company
3,000	1,038	July 1923	Eight year bonds, 3,000,- 000, —treasury notes, 1,000,000	East Asia Industrial Company
1,459*	523	Nov. 1921	Treasury notes	Okura and Company
32,479	—	—	Surplus left of salt re- serve	Various firms
3,000	1,194	...	Chinese government bonds	East Asia Industrial Company
304,458	18,037	—		
—	—	—		
...		
		...		
40,880	...	...	(1) Customs (2) Gabelle Revenue	Japanese Government
40,000	1,200	...	Railway properties and revenue	Japanese Government
13,500	1,079	Sept. 1924	Treasury notes	Japanese Government
94,380	2,279			
398,838	20,316			

only those for which the security may be regarded as reasonably good.
have been made to a total of 63,047,483 yen. The practice of making such loans ceased
on the part of Japan, and second, because they are worth no more than other arrears

per diem. ' 2.05 sen per diem. . The increase indicates a subsequent loan.

INTERNATIONAL MOVEMENT OF SPECIE, 1872-1929 *

(In thousands of yen)

Year	Gold			Silver			Net Specie Movement ^b
	Exports	Imports	Net Gold Movement ^b	Exports	Imports	Net Silver Movement ^b	
1872.....	2,684	—	2,684	1,796	3,691	-1,895	789
1873.....	2,614	2,014	600	2,508	1,066	1,442	2,042
1874.....	8,125	2	8,123	5,868	1,069	4,799	12,922
1875.....	10,602	26	10,576	4,060	272	3,788	14,364
1876.....	5,871	721	5,150	4,803	7,545	-2,742	2,408
1877.....	6,221	162	6,059	3,219	2,011	1,208	7,267
1878.....	4,600	—	4,600	3,726	2,188	1,538	6,138
1879.....	4,748	731	4,017	8,029	2,403	5,626	9,643
1880.....	5,887	20	5,867	7,334	3,617	3,717	9,584
1881.....	2,246	—	2,246	5,243	1,856	3,387	5,633
1882.....	1,250	—	1,250	3,179	6,160	-2,981	-1,731
1883.....	1,009	—	1,009	2,147	5,450	-3,303	-2,294
1884.....	1,423	299	1,124	3,581	5,312	-1,731	-607
1885.....	492	608	-116	3,764	6,938	-3,174	-3,290
1886.....	302	1,158	-856	9,323	8,012	1,311	455
1887.....	86	1,259	-1,173	10,949	7,612	3,337	2,164
1888.....	450	1,202	-752	7,383	7,529	-146	-898
1889.....	268	749	-481	4,921	13,423	-8,502	-8,983
1890.....	1,687	360	1,327	12,090	840	11,250	12,577
1891.....	230	282	-52	1,223	13,605	-12,382	-12,434
1892.....	8,544	395	8,149	1,185	22,488	-21,303	-13,154
1893.....	2,302	497	1,805	9,986	10,689	-703	1,102
1894.....	3,547	556	2,991	30,831	26,227	4,604	7,595
1895.....	2,791	1,029	1,762	24,509	4,844	19,665	21,427
1896.....	2,002	10,224	-8,222	9,807	34,317	-24,510	-32,732
1897.....	8,863	64,317	-55,454	10,987	23,079	-12,092	-67,546
1898.....	46,280	37,049	9,231	42,816	11,303	31,513	40,744
1899.....	8,768	20,085	-11,317	4,897	3,615	1,282	-10,035
1900.....	51,786	8,975	42,811	7,716	4,009	3,707	46,518
1901.....	11,477	10,656	821	4,075	1,237	2,838	3,659
1902.....	453	30,185	-29,732	2,527	6,406	-3,879	-33,611
1903.....	16,698	25,355	-8,657	3,243	3,905	-662	-9,319
1904.....	106,028	5,606	100,422	2,963	28,829	-25,866	74,556
1905.....	14,783	20,200	-5,417	2,801	11,761	-8,960	-14,377
1906.....	23,044	37,021	-13,977	4,929	10,213	-5,284	-19,261
1907.....	18,720	6,972	11,748	298	1,624	-1,326	10,422
1908.....	3,665	16,903	-13,238	175	3,392	-3,217	-16,455
1909.....	6,447	78,752	-72,305	294	841	-547	-72,528
1910.....	22,576	17,494	5,082	2,634	180	2,454	7,536
1911.....	21,801	4,941	16,860	2,642	1,269	1,373	18,233
1912.....	21,201	10,384	10,817	7,164	1,303	5,861	16,678
1913.....	20,703	979	19,724	6,400	146	6,254	25,978
1914.....	26,038	7,123	18,915	3,628	2,237	1,391	20,306
1915.....	40,674	24,287	16,387	4,132	3,699	3,763	20,150
1916.....	22,446	101,064	-78,618	6,772	1,290	5,482	-73,136
1917.....	150,711	387,032	-236,321	3,188	5,293	-2,105	-238,426
1918.....	921	867	54	15	4,211	-4,196	-4,142
1919.....	1,485	325,783	-324,298	3,568	1,713	1,855	-322,443
1920.....	10	407,531	-407,521	3,887	12,441	-8,554	-416,075
1921.....	—	132,531	-132,531	—	8,778	-8,778	-141,309
1922.....	—	1,092	-1,092	2,179	806	1,373	281
1923.....	264	138	126	5,200	182	5,018	5,144
1924.....	6	26	-20	—	4,101	-4,101	-4,121
1925.....	22,068	81	21,987	236	352	-116	21,871
1926.....	32,100	293	31,807	3,796	1,595	2,201	34,008
1927.....	36,107	113	35,994	13,572	8,598	4,974	40,968
1928.....	—	443	-443	3,436	2,364	1,072	629
1929.....	—	547	-547	3,490	313	3,177	2,630

* Japanese Department of Finance, *Book of Reference on Financial Affairs*, 1872 to 1928. The figures for 1929 are compiled from the monthly reports of the foreign trade of Japan, Taiwan, and Chosen.

^b The minus sign indicates net imports.

SPECIE HOLDINGS OF JAPAN, 1903-1929*
(In thousands of yen)

At End of Year	Owned by		Total Holdings	Held	
	Government	Bank of Japan		At Home ^b	Abroad
1903.....	6,191	133,002	139,193	120,400	18,793
1904.....	624	96,321	96,945	26,427	70,518
1905.....	363,349	115,827	479,176	36,764	442,412
1906.....	291,961	202,796	494,757	53,834	440,923
1907.....	237,035	208,158	445,193	44,562	400,631
1908.....	165,923	225,686	391,609	61,840	329,769
1909.....	144,304	301,639	445,943	116,680	329,263
1910.....	201,591	270,408	471,999	135,126	336,873
1911.....	112,668	251,417	364,085	132,854	231,231
1912.....	82,094	268,656	350,750	136,035	214,715
1913.....	90,982	285,510	376,492	130,316	246,176
1914.....	49,402	291,717	341,119	128,509	212,610
1915.....	153,423	362,659	516,082	136,785	379,297
1916.....	261,814	452,630	714,444	227,504	486,940
1917.....	386,169	718,668	1,104,837	461,345	643,492
1918.....	854,568	733,102	1,587,670	452,602	1,135,068
1919.....	1,050,794	994,354	2,045,148	702,048	1,343,100
1920.....	886,989	1,291,636	2,178,625	1,116,299	1,062,326
1921.....	790,908	1,289,536	2,080,444	1,225,319	855,125
1922.....	666,958	1,163,234	1,830,192	1,214,709	615,483
1923.....	525,482	1,127,328	1,652,810	1,208,311	444,499
1924.....	424,000	1,077,000	1,501,000	1,175,000	326,000
1925.....	343,000	1,070,000	1,413,000	1,155,000	258,000
1926.....	283,000	1,074,000	1,357,000	1,127,000	230,000
1927.....	192,000	1,081,000	1,273,000	1,087,000	186,000
1928.....	115,000	1,084,000	1,199,000	1,085,000	114,000
1929 ^c.....	...	...	...	...	...

* Compiled from the Japanese Department of Finance, *Book of Reference on Financial Affairs*. The figures for the years before 1903 are not precisely known.

^b After August, 1922, all of the Bank of Japan's reserve was held at home. Prior to that, the holdings abroad ranged from around 100,000,000 to 200,000,000 yen.

^c Not published for reasons of high policy.

**INVESTMENTS OF THE SOUTH MANCHURIA RAILWAY COMPANY,
1925 AND 1930**

Type	March, 1925 (In yen)	March, 1930 (In yen)
DIRECT INVESTMENT.....	573,288,098	716,201,513
Railway	211,457,091	261,882,378
Ports	43,480,706	78,093,974
Mine	125,129,021	112,276,860
Iron foundry	39,504,284	27,127,138
Others	153,716,996	236,821,163
SECURITY HOLDINGS.....	18,091,628	94,226,837
LOANS	62,390,599	69,265,704
TOTAL.....	653,770,325	879,694,054

**BALANCE SHEET OF SOUTH MANCHURIA RAILWAY COMPANY,
MARCH 31, 1930
(In yen)**

ASSETS

Subscribed capital uncalled	52,844,000
Fixed assets (railway, collieries, plant, etc.)	716,201,517
Merchandise (coal, iron, etc.)	6,686,120
Materials and supplies	8,323,454
Bonds and stocks	94,226,837
Cash	192,878
Deposits	33,963,269
Loans	69,265,704
Due from other concerns	610,856
Securities deposited as guaranty	6,400,718
Guaranty funds	12,770
Bills receivable	7,333,763
Exchange accounts	60,904
Accounts receivable	54,816,123
Suspense payments	23,330,443
Construction and repairs account	2,083,687
Discount and charges on debentures issued	11,084,615

Total assets 1,087,437,658

LIABILITIES

Capital subscribed	440,000,000
Legal reserve	22,430,000
Special reserve	145,400,000
Reserve for employees' pension	6,500,000
Debentures	277,102,000
Due to other concerns	1,000,865
Securities deposited as guaranty	12,350
Guaranty funds	4,124,777
Bills payable	22,000,000
Exchange accounts	38,376
Employees' savings deposits	8,226,953
Employees' caution money	36,905,670
Employees' mutual relief funds	4,719,510
Accounts payable	59,322,557
Matured debentures unpaid	61,600
Suspense receipts	3,892,948
Balance brought forward from previous year	10,194,195
Net profit for the year	45,505,857

Total liabilities 1,087,437,658

APPEN

STATISTIC

1. PRODUCTION OF PRINCIPAL (Production in

Period	Barley			Naked Barley (Rye)			Production
	Production	Acres Cultivated	Yield per Acre (In bushels)	Production	Acres Cultivated	Yield per Acre (In bushels)	
1894-1898 (Average)	42,869	...	...	34,600	...	...	19,968
1909-1913 (Average)	49,541	1,505,431	32.9	39,995	1,683,312	23.7	25,089
1914.....	48,884	1,510,393	32.4	26,897	1,782,436	20.7	22,977
1915.....	52,491	1,460,286	35.9	42,473	1,752,758	24.2	26,780
1916.....	48,798	1,395,169	21.7	40,542	1,679,619	24.1	30,139
1917.....	46,938	1,315,357	35.7	41,963	1,572,854	26.7	34,747
1918.....	42,840	1,298,979	33.0	39,815	1,562,615	25.5	32,925
1919.....	50,349	1,309,358	38.5	39,013	1,584,039	24.6	32,563
1920.....	42,438	1,326,640	28.6	42,475	1,660,045	25.5	30,157
1921.....	46,217	1,296,249	35.7	36,110	1,632,759	22.1	28,577
1922.....	44,906	1,239,111	36.2	36,510	1,506,867	24.2	29,316
1923.....	38,883	1,170,964	33.2	29,979	1,378,330	21.7	26,572
1924.....	41,342	1,125,114	36.7	29,380	1,333,426	22.0	26,969
1925.....	45,198	1,119,453	40.4	39,822	1,347,375	29.6	31,389
1926.....	43,867	1,066,799	40.0	38,090	1,334,440	28.5	30,190
1927.....	38,749	1,042,822	37.2	37,442	1,300,488	28.8	31,020
1928.....	38,935	989,078	39.4	36,480	1,251,798	29.1	32,708
1929.....	36,450	966,799	37.7	37,489	1,227,494	30.5	32,372

* Japanese Government, *Statistics of Department of Agriculture and Forestry*.

DIX B

AL TABLES

CEREALS IN JAPAN PROPER, 1894-1929 *

thousands of bushels

Wheat		Millet			Buckwheat		
Acres Cultivated	Yield per Acre (In bushels)	Production	Acres Cultivated	Yield per Acre (In bushels)	Production	Acres Cultivated	Yield per Acre (In bushels)
...	...	12,345	...	...	5,792	...	...
1,170,555	21.3	10,260	455,438	23.2	5,979	373,969	16.0
1,173,094	19.6	8,945	412,766	21.7	7,007	395,930	17.7
1,227,205	21.8	10,663	415,886	25.6	6,275	377,856	17.0
1,303,839	23.1	11,182	401,956	27.8	6,000	364,836	16.4
1,392,983	24.9	9,650	385,380	25.0	4,789	349,877	13.7
1,389,846	23.7	9,402	371,828	25.3	4,364	334,062	13.1
1,344,226	24.2	10,239	364,880	28.1	5,802	335,150	17.3
1,308,419	22.3	9,672	352,827	27.4	6,184	338,072	18.3
1,263,699	22.6	9,179	336,888	27.3	5,842	322,331	18.1
1,228,791	23.9	8,527	308,369	27.5	5,633	307,962	18.3
1,195,611	22.2	7,729	291,381	26.5	5,308	294,089	18.0
1,149,479	23.5	7,231	276,277	26.2	4,582	286,653	16.0
1,148,925	27.2	7,295	264,661	27.6	5,287	281,034	18.8
1,145,876	26.3	6,352	243,051	26.1	4,180	265,680	15.7
1,161,046	26.7	5,496	231,608	23.7	4,726	260,482	18.2
1,200,360	27.2	5,792	221,279	26.2	4,185	248,030	16.9
1,212,604	26.7	4,726	...	...	3,738	...	...

2. RICE PRODUCTION IN JAPAN PROPER, 1877-1929 *

Period	Thousands of Bushels Produced	Acres Cultivated	Yield per Acre (In bushels)
1887-1881 (Average)	184,424	...	...
1894-1898 (Average)	203,224	...	...
1909-1913 (Average)	257,258	7,299,792	35.2
1914.....	291,834	7,433,877	39.3
1915.....	286,295	7,490,729	38.2
1916.....	299,184	7,526,504	39.7
1917.....	279,350	7,556,604	37.0
1918.....	280,027	7,579,508	30.9
1919.....	311,349	7,608,527	40.9
1920.....	323,583	7,662,199	42.2
1921.....	282,485	7,682,687	36.8
1922.....	310,710	7,697,078	40.4
1923.....	283,835	7,713,728	36.8
1924.....	292,672	7,701,359	38.0
1925.....	305,642	7,729,111	39.5
1926.....	284,596	7,739,975	36.8
1927.....	317,932	7,778,228	40.9
1928.....	308,709	7,819,397	39.5
1929.....	305,458	7,865,281	38.8

* Japanese Government, *Statistics of Department of Agriculture and Forestry*. The figures are for "rough" rice.

3. PRODUCTION OF SOY AND RED BEANS IN JAPAN PROPER, 1894-1929 *

Period	Thousands of Bushels Produced	Acres Under Cultivation	Yield per Acre (In bushels)
1894-1898 (Average)	18,783	...	...
1909-1913 (Average)	22,253	1,516,167	14.7
1914.....	23,436	1,457,205	16.1
1915.....	24,419	1,474,692	16.6
1916.....	23,738	1,467,075	16.2
1917.....	22,914	1,366,001	16.8
1918.....	21,818	1,352,828	16.1
1919.....	24,619	1,361,239	18.1
1920.....	27,327	1,504,286	18.2
1921.....	28,115	1,532,449	18.3
1922.....	23,492	1,435,010	16.4
1923.....	22,131	1,376,688	16.1
1924.....	21,204	1,313,029	16.1
1925.....	23,902	1,290,761	18.5
1926.....	18,813	1,257,942	15.0
1927.....	21,194	1,218,736	17.4
1928.....	19,003	1,200,461	15.8
1929.....	17,487	...	...

* Japanese Government, *Statistics of Department of Agriculture and Forestry*.

4. PRODUCTION OF POTATOES IN JAPAN PROPER, 1909-1928 *

Period	Sweet Potatoes			White Potatoes		
	Thou- sands of Bushels	Acres under Cultiva- tion	Yield per Acre (In bushels)	Thou- sands of Bushels	Acres under Cultiva- tion	Yield per Acre (In bushels)
1909-1913 (Average)	131,279	729,659	179.9	24,737	169,476	144.2
1914	135,180	747,498	180.8	32,311	205,413	157.3
1915	145,449	753,262	193.2	35,102	224,553	156.3
1916	150,463	758,634	198.3	38,611	253,883	152.1
1917	137,832	760,935	181.1	47,615	299,110	159.2
1918	151,358	769,549	196.7	44,632	323,713	137.9
1919	164,067	784,898	209.0	67,233	382,228	175.9
1920	163,043	781,276	208.7	39,735	296,591	134.0
1921	144,766	741,805	195.2	39,504	255,530	154.6
1922	138,480	712,602	194.3	33,633	247,364	136.0
1923	140,456	723,363	194.2	31,468	237,916	132.3
1924	131,773	707,868	186.2	32,152	230,241	139.6
1925	137,158	700,349	195.8	35,781	238,470	150.0
1926	122,069	677,986	180.0	31,510	238,696	132.0
1927	121,112	668,850	181.1	34,463	239,659	143.8
1928	125,410	662,084	189.4	33,925	237,419	142.9

* Japanese Government, *Statistics of Department of Agriculture and Forestry*.

5. PRODUCTION OF SILK COCOONS AND RAW SILK IN JAPAN
PROPER, 1894-1929 *
(In thousands of pounds)

Period	Cocoons	Raw Silk	Period	Cocoons	Raw Silk
1894-1898 (Average) . .	165,946	12,999	1920	523,562	48,228
1909-1913 (Average) . .	344,072	27,905	1921	523,531	51,576
1914	364,760	31,050	1922	500,161	52,890
1915	384,203	33,447	1923	574,885	55,852
1916	471,918	37,366	1924	610,257	62,640
1917	526,644	43,960	1925	701,040	68,486
1918	564,803	47,192	1926	716,960	75,723
1919	597,042	52,576	1927	751,160	81,680
			1928	775,850	87,500
			1929	844,003	93,106

* Japanese Department of Agriculture and Forestry, *Statistics of Cocoons, and Statistics of Silk and Floss Silk*.

6. FLAX PRODUCTION IN JAPAN PROPER, 1909-1929 *

Period	Thousands of Pounds	Period	Thousands of Pounds
1909-1913 (Average)	30,002	1921.....	113,539
1914.....	63,698	1922.....	57,106
1915.....	71,398	1923.....	64,420
1916.....	104,018	1924.....	48,485
1917.....	101,431	1925.....	74,042
1918.....	143,022	1926.....	70,640
1919.....	104,109	1927.....	19,326
1920.....	145,063	1928.....	29,531
		1929.....	38,903

* Japanese Government, *Statistics of Department of Agriculture and Forestry*.

7. PRODUCTION OF METALS IN JAPAN PROPER, 1877-1929 *
(Gold in troy ounces, silver in thousands of troy ounces; other metals in thousands of pounds)

Period	Gold	Silver	Copper	Lead	Zinc	Tin
1877-1881 (Average)	9,523	373	9,819	601	—	—
1893-1897 (Average)	28,569	2,141	42,983	3,189	—	98
1909-1913 (Average)	152,148	4,526	122,351	8,364	—	63
1914.....	231,116	4,853	155,345	10,057	13,036	213
1915.....	266,685	5,120	166,263	10,503	46,587	753
1916.....	253,662	5,809	221,863	25,068	85,965	557
1917.....	227,499	7,112	238,183	34,848	120,633	467
1918.....	247,391	6,600	199,168	23,553	87,999	370
1919.....	233,770	5,163	172,938	12,722	43,687	222
1920.....	248,106	4,892	149,456	9,187	34,711	451
1921.....	237,139	4,188	121,160	6,917	22,869	648
1922.....	241,966	3,959	119,327	7,140	27,615	631
1923.....	247,274	3,597	130,835	5,951	30,380	672
1924.....	244,372	3,542	138,942	6,484	31,016	763
1925.....	272,110	4,057	146,579	7,356	37,368	862
1926.....	292,483	4,718	148,515	7,958	37,419	1,201
1927.....	308,758	4,531	146,764	7,482	38,578	1,496
1928.....	334,060	5,145	150,427	8,053	42,146	1,642
1929.....	335,123	5,164	166,379	7,438	48,720	364

* Japanese Department of Commerce and Industry, Bureau of Mines, *The Trend of the Mining Industry of Japan*.

8. PRODUCTION OF ORES IN JAPAN PROPER, 1898-1929 *
(In metric tons)

Period	Iron Ore	Manga-nese Ore	Sulphur Ore	Iron Pyrites	Scheel-ite
1893-1897 (Average)	—	16,043	—	7,624	—
1909-1913 (Average)	—	12,045	—	73,077	131
1914	121,636	17,066	8,835	115,775	195
1915	118,955	25,867	17,172	67,534	371
1916	139,953	49,307	21,478	91,017	697
1917	267,594	51,370	13,578	121,365	731
1918	378,114	56,987	21,150	105,755	604
1919	362,949	22,874	16,766	126,998	529
1920	314,858	5,471	28,170	138,406	153
1921	86,977	3,877	30,631	94,984	...
1922	39,744	4,436	42,089	161,502	...
1923	55,174	5,494	36,323	226,067	...
1924	57,922	7,582	51,709	220,457	...
1925	75,765	12,037	43,304	312,629	...
1926	130,420	15,206	47,292	417,513	15
1927	159,005	27,558	16,770	506,087	41
1928	157,706	17,693	13,319	593,976	50
1929	177,556	18,446	15,087	618,743	56

* Japanese Department of Commerce and Industry, Mining Bureau, *The Trend of the Mining Industry of Japan*.

9. PRODUCTION OF CRUDE OIL IN JAPAN PROPER, 1877-1929 *

Period	Thousands of Gallons	Period	Thousands of Gallons
1877-1881 (Average)	1,039	1919	93,613
1893-1897 (Average)	7,730	1920	92,946
1909-1913 (Average)	75,758	1921	93,470
1914	112,393	1922	85,748
1915	124,547	1923	75,119
1916	123,594	1924	75,310
1917	119,590	1925	78,027
1918	102,145	1926	71,306
		1927	69,066
		1928	77,221
		1929	82,247

* Japanese Department of Commerce and Industry, Mining Bureau, *The Trend of the Mining Industry of Japan*.

10. PRODUCTION OF NON-METALLIC MINERALS IN JAPAN PROPER,
1877-1929 ^a
(In thousands of metric tons)

Period	Coal	Lignite	Sulphur	Phos- phorite
1877-1881 (Average)	769	—	1.4	—
1893-1897 (Average)	4,518	—	17.2	—
1909-1913 (Average)	17,864	101	49.0	6
1914	22,293	105	74.0	38
1915	20,491	100	72.0	57
1916	22,902	109	106.0	114
1917	26,361	153	118.0	121
1918	28,029	173	65.0	192
1919	31,271	190	51.0	122
1920	29,245	178	40.0	97
1921	26,221	147	37.0	32
1922	27,702	166	35.0	12
1923	28,949	151	37.0	33
1924	30,111	177	47.0	85
1925	31,459	169	48.0	87
1926	31,427	161	48.0	108
1927	33,530	178 ^c	61.0	75
1928	33,860	148	70.0	58
1929	34,258	139	65.0	14

^a Japanese Department of Commerce and Industry, Mining Bureau, *The Trend of the Mining Industry of Japan*.

11. GROWTH OF RAILWAYS, JAPAN PROPER, 1873-1929 ^a
(In miles)

Year	Government Railways	Private Railways	Total
1873 ^b	18	—	18
1877-78	65	—	65
1887-88	325	317	642
1897-98	662	2,288	2,950
1905-06	1,500	3,283	4,783
1907-08	4,453	446 ^c	4,899
1917-18	6,000	1,835	7,834
1927-28	8,322	3,401	11,723
1928-29	8,509	3,689	12,199

^a Japanese Railways Department, *Materials of Railway Statistics*, and Japanese Government, Bureau of Statistics, *Statistical Annual*.

^b Calendar year. All others are fiscal years, extending from April 1 to March 31.

^c Decrease reflects purchase of private roads by the government.

12. GROWTH OF FREIGHT TRAFFIC, JAPAN PROPER, 1909-1929 ^a
(Figures are in thousands)

Year	Government Railways		Private Railways		Total ^b	
	Tons	Ton-Miles	Tons	Ton-Miles	Tons	Ton-Miles
1909.....	23,656	1,911,197	...	...	...	...
1910.....	25,482	2,126,834	...	...	...	...
1911.....	29,337	2,347,871	...	...	...	...
1912.....	32,537	2,691,464	3,615	46,554	36,153	2,738,018
1913.....	36,348	3,053,853	4,238	56,397	40,586	3,110,250
1914.....	35,273	2,982,798	4,943	63,700	40,216	3,046,499
1915.....	35,801	3,309,519	5,790	76,263	41,591	3,385,782
1916.....	42,101	4,179,135	7,537	99,238	49,638	4,278,372
1917.....	48,753	5,033,344	9,232	123,271	57,985	5,156,616
1918.....	53,314	5,608,851	10,475	134,482	63,788	5,743,333
1919.....	59,940	6,293,798	12,358	153,560	72,298	6,447,358
1920.....	56,624	5,927,184	12,045	147,562	68,668	6,074,747
1921.....	57,394	5,888,701	12,492	154,238	69,886	6,042,939
1922.....	64,071	6,368,957	14,876	182,775	78,946	6,551,732
1923.....	64,782	6,392,329	15,615	185,707	80,397	6,578,036
1924.....	70,057	7,047,680	17,770	219,605	87,827	7,267,286
1925.....	71,939	7,226,687	18,475	234,141	90,414	7,460,828
1926.....	73,603	7,265,266	20,715	272,066	94,318	7,537,332
1927.....	77,384	7,616,854	23,122	296,545	100,506	7,913,399
1928.....	78,507	7,810,177	24,697	325,237	103,204	8,135,414
1929.....	76,009	7,692,638	26,044 ^c	327,983 ^c	102,053	8,020,621

^a Japanese Railways Department, *Materials of Railway Statistics*.

^b All the totals in this column do not precisely equal the sum of the separate items since the hundreds digits were ignored in the original data. ^c Preliminary estimates.

13. WORLD TONNAGE OF STEAM AND MOTOR VESSELS,
JUNE 30, 1929 ^a

Country	Gross Tonnage
Great Britain and Ireland.....	20,046,270
United States.....	13,591,803
Japan.....	4,186,682
Germany.....	4,057,657
France.....	3,302,684
Norway.....	3,217,795
Italy.....	3,215,327
Holland.....	2,932,420
All others.....	11,856,755
Total.....	66,407,393

^a *Lloyd's Register*, 1930. These figures do not include tonnage on the Great Lakes or vessels of less than 100 gross tons.

14. PRODUCTION OF GAS AND ITS BY-PRODUCTS, JAPAN PROPER, 1911-1929 ^a

Year ^b	Gas (In millions of of cubic feet)	By-Products	
		Coke (In thousands of metric tons)	Coal Tar (In thousands of gallons)
1911.....	2,266	309	6,482
1912.....	5,437	309	6,482
1913.....	...	...	...
1914.....	6,281	328	6,869
1915.....	6,643	359	6,869
1916.....	6,778	346	6,605
1917.....	8,158	384	7,133
1918.....	9,874	452	7,398
1919.....	11,509	512	7,662
1920.....	12,119	469	7,398
1921.....	12,969	504	7,662
1922.....	13,494	478	8,190
1923.....	15,291	501	8,983
1924.....	14,377	478	8,454
1925.....	15,542	444	9,247
1926.....	17,983	517	10,040
1927.....	18,667	593	11,361
1928.....	17,185	706	11,349
1929.....	20,430	807	15,000

^a Imperial Gas Association, *Outline of Gas Industry*.

^b Calendar years for 1911 and 1912; fiscal years after April 1, 1914.

15. INSTALLED ELECTRIC POWER PLANT CAPACITY IN JAPAN PROPER, 1909-1928 ^a

(In kilowatts)

Period	Hydro-electric	Steam and Gas	Period	Hydro-electric	Steam and Gas
1909-1913 (Average) ..	177,039	187,034	1921.....	914,744	611,974
1914.....	416,586	299,383	1922.....	1,070,060	709,113
1915.....	449,220	322,364	1923.....	1,307,706	755,079
1916.....	469,634	335,655	1924.....	1,474,357	763,146
1917.....	511,090	364,473	1925.....	1,813,508	954,633
1918.....	597,124	386,842	1926.....	1,965,970	1,236,644
1919.....	710,929	422,314	1927.....	2,111,087	1,356,044
1920.....	825,387	552,156	1928.....	2,290,351	1,531,703

^a Japanese Department of Communications, *Summary of Electric Industry*.

**16. SELECTED INDEX NUMBERS OF WHOLESALE PRICES IN TOKYO,
1909-1929
(1913=100)**

Period	Raw Silk	Cotton Shirt- ings	Mousse- line	Glass Plates	Matches	Composite Index * (Average of 56 commodities)
1909-1913 (Average)	97	100.5	112	83	98	95
1913.....	100	100	100	100	100	100
1914.....	99	92	102	136	108	95
1915.....	94	86	119	202	136	97
1916.....	131	112	176	264	203	117
1917.....	147	172	234	250	191	147
1918.....	164	258	286	314	226	193
1919.....	232	308	424	391	254	236
1920.....	236	292	420	371	352	259
1921.....	171	187	357	214	252	200
1922.....	214	187	274	201	237	196
1923.....	236	186	268	233	213	199
1924.....	203	210	252	188	228	207
1925.....	214	200	255	167	224	202
1926.....	175	145	203	135	216	179
1927.....	148	135	205	118	208	170
1928.....	142	137	202	113	209	171
1929.....	141	131	174	125	211	166

* For original data with 1900 as a base, and for the method used by the Bank of Japan in constructing this general index, see Table 39, p. 564.

17. GROWTH OF SILK REELING INDUSTRY, 1909-1928 *

Period	Number of Establish- ments	Silk Output (In thousands of pounds)	Period	Number of Establish- ments	Silk Output (In thousands of pounds)
1909-1913 (Average)	361,739	27,918	1921.....	239,828	51,578
1914.....	303,636	31,051	1922.....	207,738	52,892
1915.....	288,209	33,448	1923.....	203,685	55,852
1916.....	284,500	37,367	1924.....	197,505	62,639
1917.....	269,736	43,964	1925.....	185,631	68,484
1918.....	255,750	47,916	1926.....	91,751	75,726
1919.....	239,123	52,578	1927.....	83,469	81,678
1920.....	247,119	48,230	1928.....	76,090	87,498

* Japanese Department of Agriculture and Forestry, *Statistics of Silk and Floss Silk*.

18. RELATIVE IMPORTANCE OF PRINCIPAL
(In thousands)

Year	Textile	Metal- lurgical	Mach- inery and Tool	Ceramics and Glass- ware	Chemical
1909.....	388,009	17,070	40,974	24,729	86,414
1914.....	620,260	47,964	110,906	34,309	175,848
1919.....	3,295,900	338,248	716,241	175,435	776,942
1920.....	2,464,813	321,235	888,019	186,074	715,975
1921.....	2,336,906	250,099	568,322	148,621	508,788
1922.....	2,481,227	253,258	545,447	167,017	572,135
1923.....	2,586,778	317,490	392,065	181,021	673,255
1924.....	2,925,284	378,563	447,490	180,789	729,221
1925.....	3,215,299	421,350	458,569	180,112	762,029
1926.....	2,872,116	447,058	538,917	210,747	810,018
1927.....	2,676,689	467,123	582,690	192,012	845,721
1928.....	2,848,383	544,802	629,926	203,162	935,617

* Japanese Department of Commerce and Industry, *Factory* are included. Figures for the missing years are not available.

^b By "working" is meant any process of increasing the value itself. For example, "twisting" of yarns; "dyeing" of yarns of lumber; "bookbinding," etc. By "repairing" is meant all

^c Exclusive of the value of gas and electric output.

GROUPS OF MANUFACTURING INDUSTRIES, 1909-1928 ^a
of yen)

Timber and Wood- work	Printing	Food and Drink	Gas and Electric- ity	Working and Re- pairing ^b	Miscel- laneous	Total
19,932	15,698	147,239	...	8,266	32,186	780,518 ^c
27,943	26,448	219,939	25,251	35,863	46,872	1,371,603
157,953	66,248	740,673	66,649	201,463	201,876	6,737,628
163,591	95,087	787,086	61,433	168,435	186,013	6,037,761
192,824	101,722	872,627	45,374	271,770	201,457	5,498,510
158,586	99,541	886,487	43,997	259,809	175,811	5,643,315
195,019	109,446	958,345	97,766	235,593	231,661	5,978,439
180,839	146,658	1,082,247	106,620	237,334	209,509	6,624,554
175,230	163,733	1,097,104	108,214	247,233	204,246	7,033,119
185,343	158,051	1,249,238	150,016	304,001	225,902	7,151,407
187,259	192,706	1,073,419	149,276	303,922	224,045	6,894,862
193,549	184,035	1,136,544	172,910	277,318	251,708	7,377,954

Statistics. All factories employing not less than five workers

of a product without fundamental transformation of the product and fabrics; "bleaching;" "sewing;" "sawing" and "planing" repair work, especially on ships and machines.

19. GROWTH OF SILK WEAVING INDUSTRY, 1909-1928^a
(In thousands of yen)

Period	Unadjusted	Adjusted ^b
1909-1913 (Average).....	141,976	146,367
1914.....	128,025	129,318
1915.....	149,093	158,610
1916.....	196,743	150,185
1917.....	265,704	180,751
1918.....	449,035	273,802
1919.....	804,580	346,802
1920.....	560,455	237,481
1921.....	615,553	359,973
1922.....	525,642	245,627
1923.....	496,967	210,579
1924.....	517,257	254,806
1925.....	490,342	229,132
1926.....	494,374	282,499
1927.....	469,408	317,168
1928.....	548,169	388,772

^a Japanese Government, *Statistics of Department of Commerce and Industry*.

^b Adjusted figures were derived by use of the Bank of Japan index of Tokyo wholesale prices of raw silk, converted to a base of 1913=100.

20. GROWTH OF THE COTTON SPINNING INDUSTRY, 1894-1929^a

Period	Number of Spindles (In thousands)	Output of Yarn (In thousands of bales ^b)
1894-1898 (Average).....	796	442
1909-1913 (Average).....	2,182	1,231
1914.....	2,657	1,666
1915.....	2,807	1,720
1916.....	2,875	1,925
1917.....	3,060	1,923
1918.....	3,227	1,803
1919.....	3,488	1,920
1920.....	3,813	1,816
1921.....	4,161	1,811
1922.....	4,517	2,228
1923.....	4,436	2,171
1924.....	5,125	2,072
1925.....	5,447	2,436
1926.....	5,679	2,607
1927.....	6,116	2,530
1928.....	6,467	2,451
1929.....	6,836	2,792

^a Cotton Spinners' Association of Japan, *Reference Book on Cotton Spinning*.

^b Bales of 400 pounds.

21. GROWTH OF COTTON WEAVING INDUSTRY, 1909-1928 ^a
(In thousands of yen)

Period	Value of Product	
	Unadjusted	Adjusted ^b
1909-1913 (Average).....	139,342	138,649
1914.....	150,385	163,462
1915.....	182,384	212,074
1916.....	304,490	271,866
1917.....	396,133	230,310
1918.....	624,216	241,944
1919.....	1,033,831	335,659
1920.....	693,550	237,517
1921.....	663,488	354,806
1922.....	639,028	341,726
1923.....	694,319	373,290
1924.....	745,828	355,156
1925.....	774,372	387,186
1926.....	743,314	512,630
1927.....	725,419	537,347
1928.....	784,633	572,725

^a Japanese Government, *Statistics of Department of Commerce and Industry*.

^b In order to eliminate as far as possible the effects of price movements the data in this column have been adjusted by means of the Bank of Japan index of Tokyo wholesale prices of cotton shirtings, converted to a base of 1913=100.

22. GROWTH OF COTTON, WOOL, AND SILK KNITTING, 1909-1928 ^a
(In thousands of yen)

Period	Value of Product
1909-1913 (Average).....	9,905
1914.....	13,732
1915.....	25,413
1916.....	54,228
1917.....	51,209
1918.....	68,589
1919.....	94,189
1920.....	53,289
1921.....	64,497
1922.....	52,532
1923.....	47,228
1924.....	54,350
1925.....	62,261
1926.....	55,053
1927.....	67,603
1928.....	65,752

^a Japanese Government, *Statistics of Department of Commerce and Industry*.

23. GROWTH OF THE WOOLEN FABRIC INDUSTRY, 1909-1928 ^a
(In thousands of yen)

Period	Value of Product	
	Unadjusted	Adjusted ^b
1909-1913 (Average).....	23,515	20,996
1914.....	40,526	39,731
1915.....	40,283	33,851
1916.....	51,401	29,205
1917.....	44,022	18,813
1918.....	85,938	30,048
1919.....	129,374	30,513
1920.....	161,238	38,390
1921.....	162,538	45,529
1922.....	136,467	49,805
1923.....	180,484	67,345
1924.....	202,390	80,313
1925.....	182,481	71,561
1926.....	205,252	101,109
1927.....	238,706	116,442
1928.....	220,419	109,118

^a Japanese Department of Commerce and Industry, *Factory Statistics*.

^b Derived by use of Bank of Japan index of Tokyo wholesale prices of mousseline, converted to a base of 1913=100.

24. PIG IRON AND STEEL PRODUCTION, 1912-1929 ^a
(In metric tons)

Year	Pig Iron (Including ferro-alloy)	Steel	Year	Pig Iron (Including ferro-alloy)	Steel
1912.....	239,168	...	1921.....	480,300	832,428
1913.....	242,676	...	1922.....	559,310	909,145
1914.....	301,726	...	1923.....	610,751	959,008
1915.....	320,627	...	1924.....	599,029	1,099,283
1916.....	391,892	...	1925.....	696,720	1,300,203
1917.....	462,792	773,132	1926.....	821,832	1,506,215
1918.....	606,428	813,219	1927.....	912,183	1,685,242
1919.....	612,609	813,494	1928.....	1,109,627	1,905,707
1920.....	529,875	810,825	1929.....	1,113,463	2,293,840

^a Japanese Department of Commerce and Industry, Mining Bureau, *Manual of Iron Industry*.

25. PRODUCTION OF CASTINGS AND METALLIC WARES, 1909-1928 *
(In thousands of yen)

Year	Castings	Metallic Wares
1909.....	5,492	6,785
1921.....	50,926	72,014
1922.....	61,962	82,625
1923.....	46,413	103,254
1924.....	48,134	122,412
1925.....	51,355	126,153
1926.....	53,270	152,535
1927.....	60,970	161,893
1928.....	71,343	191,770

* Japanese Department of Commerce and Industry, *Factory Statistics*.

26. GROWTH OF MACHINERY AND MACHINE MANUFACTURES,
1909-1928 *
(In thousands of yen)

Year	Motors, Boilers, etc.	Electrical Machines	Agricultural and Construc- tion Machines	Manu- facturing Appliances and Tools	Instruments of Precision
1909.....	3,491	3,037	1,706	1,979	2,587
1914.....	29,300	21,332	2,955	3,228	6,253
1921.....	26,814	113,607	10,265	58,123	9,963
1922.....	44,745	121,179	7,491	38,477	16,817
1923.....	25,354	137,161	8,151	38,372	13,630
1924.....	29,035	146,118	10,217	48,099	19,913
1925.....	31,551	159,663	10,069	43,761	17,992
1926.....	41,767	186,707	12,756	49,150	22,941
1927.....	39,416	211,478	14,262	50,540	23,764
1928.....	44,997	229,949	15,670	54,381	26,345

* Japanese Department of Commerce and Industry, *Factory Statistics*.

27. SHIPS LAUNCHED, 1909-1928 *

Period	Steamships		Sailing Vessels	
	Number	Gross Tonnage	Number	Tonnage
1909-1913 (Average) ..	105	52,042	299	19,654
1914.....	39	85,125	102	13,564
1915.....	31	50,104	64	8,900
1916.....	68	157,196	190	28,669
1917.....	196	403,016	526	83,092
1918.....	396	641,056	470	80,408
1919.....	190	646,344	166	28,135
1920.....	146	452,688	52	7,420
1921.....	69	226,081	12	1,711
1922.....	57	71,076	14	2,167
1923.....	56	74,284	1	2,500
1924.....	39	71,802	6	1,006
1925.....	33	55,026	6	923
1926.....	27	52,362	5	560
1927.....	31	52,575	4	815
1928.....	48	111,977	5	606

* Japanese Department of Communications, *Record of Ships and Shipbuilding*.

28. PRODUCTION OF ROLLING STOCK, 1914-1928 *

(In thousands of yen)

Year	Loco- motives and Tenders	Coaches and Wagons	Electric Cars
1914.....	4,502	3,297	...
1921.....	17,664	18,049	...
1922.....	20,617	12,332	...
1923.....	16,285	14,589	5,109
1924.....	13,921	19,577	6,774
1925.....	10,294	12,349	6,186
1926.....	13,453	12,122	7,418
1927.....	13,091	12,769	5,236
1928.....	18,893	16,873	7,564

* Japanese Department of Commerce and Industry, *Factory Statistics*.

29. GROWTH OF CERAMIC AND GLASSWARE INDUSTRY, 1909-1928 ^a
(In thousands of yen)

Period	Porcelain and Earthenware		Glass Products	
	Unadjusted Value	Adjusted Value ^b	Unadjusted Value	Adjusted Value ^c
1909-1913 (Average)	14,948	15,735	4,715	5,681
1914.....	15,656	16,480	7,595	5,585
1915.....	17,532	18,074	12,215	6,047
1916.....	25,220	21,556	16,762	6,349
1917.....	29,338	19,958	27,362	10,945
1918.....	44,214	22,909	41,924	13,352
1919.....	64,659	27,398	52,694	13,477
1920.....	62,840	24,263	53,547	14,433
1921.....	54,057	27,028	38,680	18,075
1922.....	60,491	30,863	39,364	19,584
1923.....	64,740	32,533	41,096	17,638
1924.....	68,533	33,108	53,611	28,516
1925.....	78,177	38,701	47,854	28,655
1926.....	73,970	41,324	45,890	33,993
1927.....	74,363	43,743	44,267	37,514
1928.....	76,726	44,869	44,681	39,541

^a Japanese Government, *Statistics of Department of Commerce and Industry*, and, Japanese Department of Commerce and Industry, *Factory Statistics*.

^b Derived by use of Bank of Japan general index of Tokyo wholesale prices, converted to a base of 1913=100.

^c Derived by same method described in footnote ^b, except that price index of glass plates was used.

30. PRODUCTION OF PORTLAND CEMENT, 1909-1929 ^a

Period	Thousands of Kegs	Period	Thousands of Kegs
1909-1913 (Average).....	3,183	1921.....	9,019
1914.....	3,625	1922.....	10,795
1915.....	3,943	1923.....	13,017
1916.....	4,495	1924.....	12,764
1917.....	5,501	1925.....	14,558
1918.....	6,640	1926.....	18,609
1919.....	6,444	1927.....	20,752
1920.....	7,852	1928.....	22,474
		1929.....	25,140

^a Data are from Cement Manufacturers' Association Annual Reports.

31. PRODUCTION OF PAPER AND WOOD PULP, 1909-1929 ^a

Period	Paper (In thousands of pounds)	Wood Pulp (In tons)
1909-1913 (Average).....	227,499	...
1914.....	327,614	89,874
1915.....	367,578	112,075
1916.....	405,468	134,986
1917.....	454,999	169,036
1918.....	498,964	198,596
1919.....	519,141	235,227
1920.....	565,926	268,261
1921.....	534,450	250,027
1922.....	629,343	301,425
1923.....	729,408	338,106
1924.....	817,383	357,084
1925.....	931,772	414,706
1926.....	1,074,647	500,301
1927.....	1,151,515	536,390
1928.....	1,305,754	567,529
1929.....	1,418,187	636,416 ^b

^a Figures are from the Paper Manufacturers' Association of Japan *Journal*. Pure Japanese paper is not included. Figures for wood pulp are from Japanese Department of Agriculture and Forestry, Forestry Bureau, *Production of Wood Pulp in Japan*.

^b Preliminary estimate.

32. PRODUCTION OF MATCHES, 1909-1928 ^a (In thousands of yen)

Period	Value	
	Unadjusted	Adjusted ^b
1909-1913 (Average).....	18,464	18,841
1914.....	18,470	17,102
1915.....	...	...
1916.....	...	...
1917.....	...	...
1918.....	...	...
1919.....	39,693	15,627
1920.....	28,168	8,002
1921.....	20,884	8,287
1922.....	18,951	7,996
1923.....	14,811	6,954
1924.....	15,793	6,927
1925.....	16,987	7,583
1926.....	15,667	7,253
1927.....	14,540	6,990
1928.....	12,445	5,955

^a Japanese Department of Commerce and Industry, *Factory Statistics*.

^b Derived by use of Bank of Japan index of Tokyo wholesale prices of matches, converted to a base of 1913=100.

33. PRODUCTION OF RUBBER GOODS, 1909-1928 ^a
(In thousands of yen)

Year	Value	Year	Value
1909.....	1,526	1923.....	47,082
1914.....	6,174	1924.....	51,946
1919.....	32,422	1925.....	55,630
1920.....	40,129	1926.....	58,600
1921.....	49,052	1927.....	66,056
1922.....	45,933	1928.....	70,270

^a Japanese Department of Commerce and Industry, *Factory Statistics*.

34. PRODUCTION OF FERTILIZERS, 1909-1928 ^a

Period	Quantity (In metric tons)				Total Value (In thousands of yen)
	Bean Cakes	Super-phosphates	Ammonium Sulphate	Total	
1909-1913 (Average) ..	65,123	347,098	5,543	417,764	13,429
1914.....	92,325	513,863	16,050	622,238	20,480
1915.....	148,725	363,075	31,838	543,638	20,670
1916.....	205,950	420,488	37,350	663,788	30,030
1917.....	254,700	445,538	40,688	740,926	43,380
1918.....	344,025	467,925	52,800	864,750	69,330
1919.....	353,288	607,800	78,975	1,040,063	100,830
1920.....	260,138	508,575	80,100	848,813	85,640
1921.....	198,488	554,063	94,763	847,314	54,470
1922.....	225,600	594,488	92,963	913,051	55,030
1923.....	254,363	507,000	104,213	865,576	61,840
1924.....	214,950	593,325	108,713	916,988	61,440
1925.....	233,813	673,800	131,138	1,038,751	75,250
1926.....	270,413	786,263	147,000	1,203,676	78,550
1927.....	230,175	934,838	176,475	1,341,488	74,909
1928.....	243,750	926,175	232,425	1,402,350	82,946

^a Japanese Department of Agriculture and Forestry, *Manual on Fertilizers*.

35. GROWTH OF THE FLOUR MILLING INDUSTRY, 1909-1929^a
(In thousands of bags^b)

Period	Production	Period	Production
1909-1913 (Average)	13,059	1921	25,742
1914	16,428	1922	28,157
1915	17,536	1923	30,098
1916	18,016	1924	32,676
1917	23,696	1925	36,483
1918	23,794	1926	38,349
1919	23,889	1927	36,701
1920	24,352	1928	42,478
		1929	43,159

^a Data are from Nissin Flour Mills, Ltd., *Annual Reports*.

^b Containing 49 pounds each.

36. GROWTH OF SUGAR MANUFACTURING, 1909-1929^a
(In thousands of pounds)

Period	Production
1909-1913 (Average)	514,107
1914	524,529
1915	621,700
1916	914,469
1917	1,292,791
1918	963,510
1919	838,156
1920	647,188
1921	771,194
1922	956,279
1923	955,640
1924	1,219,399
1925	1,272,794
1926	1,335,096
1927	1,148,424
1928	1,558,508
1929	2,007,796

^a Government-General of Taiwan, Industrial Bureau, *Statistics of Sugar Industry in Taiwan*.

37. PRODUCTION OF ALCOHOLIC BEVERAGES, 1909-1928
(In thousands of gallons)

Period	Sake ^a	Beer ^b	Other Alcoholic Beverages ^b
1909-1913 (Average).....	200,792	8,612	10,497 ^c
1914.....	209,172	11,369	13,197
1915.....	183,405	11,860	12,761
1916.....	193,252	16,880	12,790
1917.....	224,820	20,138	14,956
1918.....	248,133	24,382	16,884
1919.....	241,372	32,281	18,839
1920.....	286,768	26,220	25,213
1921.....	208,270	31,276	19,997
1922.....	270,789	36,432	22,265
1923.....	271,835	38,413	23,440
1924.....	265,619	41,686	23,527
1925.....	252,644	40,911	23,586
1926.....	251,309	36,584	24,945
1927.....	234,501	37,909	24,769
1928.....	221,214	43,107	24,646

^a Japanese Department of Agriculture and Forestry, *Annual Report of Statistics of Rice*.

^b Japanese Government, Bureau of Statistics, *Statistical Annual*, for 1909-1913; and thereafter from *Statistics of Department of Commerce and Industry*.

^c Since the figure for 1913 was not available, the average for 1909-1912 is given.

38. CAPITALIZED VALUE OF BUSINESS GROUPS, JAPAN PROPER, 1928 ^a

(In thousands of yen)

Classification	Paid-in Capital	Nominal Capital
Commercial.....	3,785,837	5,134,879
Industrial.....	3,269,518	4,709,673
Banking.....	1,758,368	2,657,822
Insurance.....	123,237	337,150
Railways (private).....	769,598	1,342,961
Utilities (gas and electric).....	1,923,623	2,619,262
Others (agriculture, mining, aquatic products, transport).....	1,531,312	2,167,118
Total.....	13,161,493	18,968,865

^a Japanese Department of Commerce and Industry, *Corporation Statistics*.

39. WHOLESALE PRICE MOVEMENTS IN SELECTED COUNTRIES, 1900-1930 *

Year	Japan		United States		Great Britain	
	October, 1900=100	1913=100	1926=100	1913=100	1867-1877 =100	1913=100
1900.....	100.0	75.6	56.1	80.4	75	88
1901.....	96.0	72.6	55.3	79.2	70	82
1902.....	96.9	73.2	58.9	84.4	69	81
1903.....	103.1	77.9	59.6	85.4	69	81
1904.....	108.4	81.9	59.7	85.5	70	82
1905.....	116.4	88.0	60.1	86.1	72	85
1906.....	119.8	90.6	61.8	88.5	77	91
1907.....	129.3	97.7	65.2	93.4	80	94
1908.....	124.6	94.2	62.9	90.1	73	86
1909.....	118.8	89.8	67.6	96.8	74	87
1910.....	120.3	90.9	70.4	100.9	78	92
1911.....	124.7	94.3	64.9	93.0	80	94
1912.....	132.1	99.8	69.1	99.0	85	100
1913.....	132.3	100.0	69.8	100.0	85	100
1914.....	126.3	95.5	61.1	87.5	85	100
1915.....	127.8	96.6	69.5	99.6	108	127
1916.....	154.6	116.9	85.5	122.5	136	160
1917.....	194.5	147.0	117.5	168.3	175	206
1918.....	254.8	192.6	131.3	188.1	192	226
1919.....	312.1	235.8	138.6	198.6	206	242
1920.....	343.2	259.4	154.4	221.2	251	295
1921.....	265.1	200.4	97.6	139.8	155	182
1922.....	259.0	195.8	96.7	138.5	131	154
1923.....	263.5	199.2	100.6	144.1	129	152
1924.....	273.2	206.5	98.1	140.5	139	164
1925.....	266.8	201.7	103.5	148.3	136	160
1926.....	236.6	178.8	100.0	143.3	126	148
1927.....	224.7	169.8	95.4	136.7	122	144
1928.....	226.1	170.9	97.7	140.0	121	142
1929.....	219.8	166.1	96.5	138.3	114	134
1930.....	180.9	136.7	86.3	123.6	...	113

* The Japanese series is the Bank of Japan index number of the wholesale prices of 56 commodities in Tokyo. It is an unweighted index, the composite being the simple arithmetic average of the individual price series. The United States series is the weighted index number of wholesale prices of the Bureau of Labor Statistics, consisting of 550 price series, and the British is the Statist index, unweighted, and based on 45 commodities. In all cases the series have been converted to the prices of 1913 as 100. Differences in the composition of the several indexes tend to affect the extent of price changes during periods of sharp fluctuations; but for purposes of general comparison the data are reasonably satisfactory.

**40. NOTE RESERVE POSITION AND SPECIE HOLDINGS OF THE
BANK OF JAPAN, 1885-1929^a
(In thousands of yen)**

At End of Year	Note Issues	Specie Reserve	Reserve Ratio (As percentages)	Total Specie Holdings of Bank of Japan
1885.....	3,956	3,311	83.7	...
1886.....	39,549	23,855	60.8	...
1887.....	53,454	31,579	59.1	...
1888.....	65,770	45,022	68.5	...
1889.....	79,108	57,409	72.6	...
1890.....	102,931	44,622	43.4	...
1891.....	115,734	63,178	54.6	...
1892.....	125,843	81,158	64.5	...
1893.....	148,663	85,928	57.8	...
1894.....	149,813	81,718	54.5	...
1895.....	180,336	60,370	33.5	...
1896.....	198,313	132,730	66.9	...
1897.....	226,229	98,261	43.4	...
1898.....	197,399	89,570	45.4	...
1899.....	250,562	110,142	44.0	...
1900.....	228,570	67,349	29.5	...
1901.....	214,096	71,358	33.3	...
1902.....	232,094	109,118	47.0	...
1903.....	232,920	116,962	50.2	133,001
1904.....	286,625	83,851	29.2	96,320
1905.....	312,790	115,595	37.0	115,826
1906.....	341,766	147,202	43.1	202,795
1907.....	369,984	161,742	43.7	208,158
1908.....	352,734	169,504	48.1	225,685
1909.....	352,763	217,843	61.8	301,639
1910.....	401,624	222,382	55.4	270,407
1911.....	433,399	229,154	52.9	251,417
1912.....	448,921	247,023	55.0	268,655
1913.....	426,388	224,365	52.6	285,509
1914.....	385,589	218,237	56.6	291,717
1915.....	430,138	248,417	57.8	362,659
1916.....	601,224	410,519	68.3	452,630
1917.....	831,371	649,618	78.1	718,668
1918.....	1,144,739	712,925	62.8	733,102
1919.....	1,555,100	951,976	61.2	994,354
1920.....	1,439,240	1,246,688	86.6	1,291,636
1921.....	1,546,545	1,245,574	80.5	1,289,536
1922.....	1,588,402	1,063,886	67.0	1,163,234
1923.....	1,703,596	1,067,471	62.1	1,127,327
1924.....	1,662,315	1,059,024	63.7	1,077,000
1925.....	1,631,783	1,056,998	64.8	1,070,000
1926.....	1,569,708	1,058,131	67.4	1,074,000
1927.....	1,682,390	1,062,737	63.2	1,081,000
1928.....	1,739,096	1,061,636	61.0	1,084,000
1929.....	1,641,851	1,072,273	65.3	b

^a From Bank of Japan Report; Japanese Department of Finance, *Book of Reference on Financial Affairs*.

^b Not published for reasons of high policy.

41. NOTE ISSUES OF COLONIAL BANKS, 1913-1929
(In thousands of yen)

Year	Bank of Taiwan	Bank of Chosen
1913.....	18,785	25,693
1914.....	14,247	21,850
1915.....	17,611	34,387
1916.....	25,451	46,627
1917.....	33,512	67,364
1918.....	42,108	115,523
1919.....	49,653	163,600
1920.....	40,249	114,034
1921.....	40,863	136,360
1922.....	34,244	100,544
1923.....	39,702	110,233
1924.....	51,260	129,118
1925.....	53,186	120,540
1926.....	48,640	110,936
1927.....	53,602	124,527
1928.....	55,712	132,444
1929.....	49,241	118,701

42. BALANCE SHEET OF BANK OF TAIWAN, JUNE 30, 1930

(In yen)

ASSETS	
Capital unpaid [*]	1,875,000
Loans	92,102,965
Special loans to customers	47,202,577
Interest bills.....	16,281,727
Overdrafts.....	3,642,230
Advances against exchange contracts.....	1,628,488
Money at call.....	520,000
Bills discounted.....	109,083,944
Documentary drafts.....	15,794,933
Foreign exchange purchased.....	15,891,333
Loans on other bankers' accounts.....	8,749,235
Liabilities of customers for acceptances.....	1,636,280
Deposits in other banks.....	4,852,387
Due from other banks.....	622,459
Government bonds.....	41,176,509
Local government bonds.....	148,604
Foreign government bonds.....	4,658,067
Shares and debentures.....	44,353,480
Bank premises and furniture.....	9,194,606
Suspense accounts.....	1,464,997
Bullion.....	17,584,323
Cash in hand.....	6,426,372
Total assets.....	444,890,516

LIABILITIES	
Capital subscribed.....	15,000,000
Reserve for losses.....	10,000
Reserve for dividend equalization.....	3,000
Special reserve.....	1,000
Dividends unclaimed.....	36,789
Notes in circulation.....	43,804,149
Bills payable.....	4,229
Deposits of the Bank of Japan.....	2,894,832
Fixed deposits.....	29,154,282
Current accounts.....	10,393,278
Special current accounts.....	25,484,839
Deposits at notice.....	4,129,988
Special deposits.....	1,955,829
Liabilities of customers on special loans.....	47,202,577
Loans from government.....	100,761,756
Loans payable.....	35,216,084
Call money.....	1,000,000
Bills rediscounted.....	95,762,351
Liabilities for loans on other banks' accounts.....	8,749,235
Acceptances.....	1,636,280
Funds in trust.....	7,544,473
Due to other banks.....	1,357,687
Suspense accounts.....	12,374,031
Net profit for the current half-year.....	413,877
Total liabilities.....	444,890,516

^{*} A common Japanese practice is to include under capital on the liabilities side the total capital authorized, and to set up as an asset the unpaid portion.

43. BALANCE SHEET OF BANK OF CHOSEN, JUNE 30, 1930
(In yen)

ASSETS

Capital unpaid	15,000,000
Special loans	47,202,577
Loans	225,980,892
Overdrafts	8,421,734
Advances against exchange contracts	33,023
Bills discounted	13,023,388
Documentary drafts	4,904,888
Money at call	400,000
Foreign exchange purchased	14,493,349
Interest bills	2,376,168
Deposits in other banks	7,514,483
Due from other banks	1,083,623
Liabilities of customers for acceptance	7,154,361
Securities	113,111,438
Bank premises and furniture	11,540,353
Bullion	11,536,760
Foreign money	5,846
Suspense accounts	1,033,489
Cash in hand	25,401,142
Total assets	510,217,514

LIABILITIES

Capital subscribed	40,000,000
Reserve fund	2,501,027
Dividend unclaimed	118,881
Notes in circulation	82,467,273
Bills payable	331,792
Deposits	96,135,279
Liabilities of customers on special loans	47,202,578
Loans from government	70,200,000
Loans payable	134,688,591
Bills rediscounted	11,047,598
Call money	3,300,000
Foreign exchange sold	307,654
Due to other banks	4,087,651
Remittances in transit	3,076,807
Acceptances	7,154,361
Suspense accounts	6,449,333
Balance brought forward from last account	223,490
Net profit for the current half year	925,199
Total liabilities	510,217,514

* See footnote a on p. 567.

44. BALANCE SHEET OF YOKOHOMA SPECIE BANK, JUNE 30, 1930
(In yen)

ASSETS

Loans to government.....	179,393
Loans.....	105,340,267
Interest bills.....	76,384,748
Doubtful debts.....	3,862,667
Overdrafts.....	50,839,370
Bills discounted.....	212,740,539
Foreign exchange purchased.....	196,728,686
Advances against exchange contracts.....	18,566,153
Liabilities of customers for acceptances.....	17,375,388
Special deposits.....	1,024,370
Accounts at agencies for payment of principal and interest of government bonds.....	123,772
Current accounts.....	62,014,513
Suspense accounts.....	1,166,725
Due from other banks.....	813,633
Public bonds.....	339,406,350
Other securities.....	5,096,049
Bank premises and furniture.....	20,178,151
Properties acquired through the liquidation of debts.....	3,185,522
Bullion.....	1,483
Foreign money.....	488,520
Cash in hand.....	20,639,824
Total assets.....	1,135,651,124

LIABILITIES

Capital fully paid.....	100,000,000
Reserve fund.....	109,000,000
Special reserve fund.....	2,500,000
Reserve for doubtful debts.....	3,785,041
Dividend unclaimed.....	40,181
War-notes taken over from government.....	179,393
Deposit for the payment of principal and interest of government bonds.....	8,648,554
Fixed deposits.....	261,880,369
Current accounts.....	65,363,105
Deposits at notice.....	65,378,432
Special deposits.....	164,296,100
Deposit for the redemption of war-notes.....	59,225
Partial payments for bills receivable.....	5,760,171
Loans payable.....	125,625,367
Special loans payable.....	61,372,511
Overdrafts.....	4,587,000
Bills rediscounted.....	62,616,105
Foreign exchange sold.....	25,370,088
Foreign drafts in home currency.....	729,930
Notes in circulation.....	5,438,976
Acceptances.....	17,375,388
Accrued interest.....	4,587,297
Unearned discount.....	8,681,289
Suspense accounts.....	13,727,925
Due to other banks.....	1,387,255
Net profit for the current half-year.....	7,121,819
Balance brought forward from last account.....	6,231,848
Difference of exchange.....	3,907,756
Total liabilities.....	1,135,651,124

**45. STATEMENT OF CONDITION OF THE "BIG FIVE" BANKS,
JUNE 30, 1930^a**

(In thousands of yen)

Resources	Yasuda	Mitsui	Sumi- tomo	Dai-ichi	Mitsu- bishi
CASH	65,774	75,004	57,097	65,080	47,991
In vaults	58,214	30,895	41,042	48,174	35,001
In other banks	7,556	42,760	14,671	16,905	12,989
(In Bank of Japan)	(2,859)	(40,109)	(11,546)	(15,321)	(11,213)
Gold and silver bullion and foreign money	3	1,848	1,384	—	—
MONEY AT CALL AND SHORT NOTICE	11,728	23,270	16,600	11,500	12,499
SECURITIES	222,660	214,019	232,103	269,893	333,366
Government bonds	106,278	68,443	104,920	136,020	103,708
Municipal and prefectural bonds	24,697	33,947	16,022	51,538	27,924
Foreign securities	281	24,711	3,037	1,094	866
Corporation bonds	70,995	86,498	93,326	75,634	167,197
Stocks and shares	20,407	418	14,797	5,605	33,668
BILLS DISCOUNTED	30,185	34,392	63,163	92,190	28,916
Commercial papers	25,226	34,362	62,668	89,886	28,384
Documentary bills	4,958	30	495	2,303	531
LOANS AND ADVANCES	454,861	405,984	354,104	308,628	273,594
Loans and bills	386,605	377,853	314,869	276,592	237,321
Advances on documents ..	33,279	11,482	4,758	5,524	14,915
Overdrafts	34,976	16,647	34,476	26,511	17,207
Advances on export bills ..	—	—	—	—	4,149
SECURITIES LOANED TO CUS- TOMERS	1,987	1,740	1,521	2,204	2,739
FOREIGN EXCHANGE	6,734	55,416	35,106	3,607	14,249
Foreign bills bought	4,806	44,056	20,878	2,144	5,409
Interest bills receivable ..	176	6,759	13,092	43	6,758
Due from foreign corre- spondents	1,750	4,600	1,135	1,420	2,080
DUE FROM CORRESPONDENTS ..	14,154	139	6,543	2,439	513
AGENTS' ACCOUNTS	—	—	7	—	—
ACCEPTANCES AND GUARAN- TIES AS PER CONTRA (Item 12, under liabilities)	4,621	9,070	8,375	3,331	578
REAL ESTATE	14,313	8,346	19,582	22,887	14,516
Bank premises and furni- ture	10,634	7,382	17,993	20,106	12,630
Other real and personal property	3,679	964	1,588	2,781	1,886
MISCELLANEOUS ACCOUNTS ..	1,387	2,562	—	—	1,832
Suspense payment	1,387	36	—	—	2
Suspense a c c o u n t for bank's new premises ...	—	2,525	—	—	—
Money in trust (pension funds)	—	—	—	—	1,829
CAPITAL UNPAID ^b	57,250	40,000	20,000	—	37,500
TOTAL RESOURCES	885,658	869,946	814,207	781,763	768,297

^a The totals and sub-totals in this table do not precisely equal the sum of the separate items because the hundreds digits were ignored in the original data.

^b See footnote a, p. 567.

**45. STATEMENT OF CONDITION OF THE "BIG FIVE" BANKS,
JUNE 30, 1930—(Continued)
(In thousands of yen)**

Liabilities	Yasuda	Mitsui	Sumi- tomi	Dai-ichi	Mitsu- bishi
DEPOSITS	636,885	648,873	670,861	634,394	593,393
Demand	120,782	62,684	73,854	88,466	48,086
Special demand	141,488	96,363	120,814	114,456	109,541
At notice	77,796	56,493	40,147	37,573	41,965
Time	287,478	430,698	430,209	384,900	392,467
Miscellaneous	8,738	2,632	5,834	8,997	525
Certificates of deposit....	600	—	—	—	805
FOREIGN EXCHANGE	1,356	27,459	18,203	491	17,003
Foreign bills	378	2,508	7,832	202	569
Due to foreign banks	978	24,950	10,370	289	16,433
DUE TO CORRESPONDENTS	12,116	416	3,986	5,732	455
ACCEPTANCES AND GUARANTIES	4,621	9,070	8,375	3,331	578
MISCELLANEOUS ACCOUNTS ...	10,582	9,239	9,676	8,955	8,329
Dividends unclaimed	22	4	2	65	4
Interest accrued on de- posits	5,267	6,262	6,912	6,212	5,954
Rebate on bills discounted not yet due, etc.	1,293	2,455	1,474	1,607	1,241
Taxes on interest ac- crued	214	161	122	120	129
Suspense account	1,909	56	—	—	194
Drafts outstanding	1,874	298	945	949	353
Accounts en route	—	—	218	—	451
CAPITAL ACCOUNTS	220,097	174,887	103,103	128,856	148,537
Capital	150,000	100,000	70,000	57,500	100,000
Legal reserve (surplus) ..	32,200	29,200	20,500	57,500	18,000
Special reserve	28,000	27,000	6,000	6,850	22,000
Reserve for equalization of dividends	—	9,000	—	—	—
Employees' pension funds	262	3,312	2,071	1,268	2,057
Balance (undivided profits)	4,583	2,078	1,690	1,802	2,958
Refunding from pension funds	—	163	118	14	—
Net profit for current half- year	5,051	4,134	2,724	3,922	3,521
TOTAL LIABILITIES	885,658	869,946	814,207	781,763	768,297
APPROPRIATION OF PROFITS AND BALANCE BROUGHT FOR- WARD FOR CURRENT HALF- YEAR	9,634	6,375	4,532	5,738	6,479
Legal reserve	1,000	500	500	—	500
Special reserve	—	—	—	500	—
Depreciation charge	—	—	—	250	—
Directors' bonus	100	330	110	196	175
Employees' pension funds	230	520	120	78	175
Dividends	3,710	3,000	2,000	2,875	3,125
Balance carried forward ..	4,594	2,024	1,802	1,839	2,504

46. BALANCE SHEET OF THE HYPOTHEC BANK OF JAPAN,
JUNE 30, 1930
(In yen)

ASSETS	
Capital unpaid ^a	24,123,938
Loans repayable by instalments:	
Direct loans.....	826,720,764
Advanced through and guaranteed by the agencies...	59,864,481
Time loans:	
Direct loans.....	58,015,337
Advanced through and guaranteed by the agencies....	213,149
Agricultural and industrial debentures subscribed.....	12,322,264
Loans for short terms.....	4,133,239
Bills discounted.....	10,949,481
Overdraft on current account.....	68,331
Deposits with the Treasury Deposits Bureau.....	80,029,350
Deposits with other banks.....	18,364,276
Call loans.....	2,000,000
Post-Office transfer accounts.....	129,340
Government bonds.....	24,598,880
Local government bonds.....	11,835,692
Shares and debentures.....	5,292,846
Difference between face value and issue price of Hypothec debentures ^b	1,849,200
Difference between face value and issue price of Hypothec debentures issued at discount.....	7,050,849
Loanable funds with the agencies.....	21,900
Funds for payments at the agencies.....	1,637,185
Collection accounts with the agencies.....	38,548
Bank premises.....	12,088,913
Furniture.....	103,830
Real estate.....	2,105,973
Suspense payments.....	5,115,521
Cash in hand.....	938,581
Total assets.....	1,169,611,868
LIABILITIES	
Capital subscribed.....	101,500,000
Reserve for losses.....	29,244,050
Reserve for equalization of dividend.....	6,883,957
Special reserve.....	21,116,000
Dividend unclaimed.....	80,761
Hypothec debentures outstanding.....	768,092,710
Savings certificates outstanding.....	397,010
Reconstruction certificates outstanding.....	81,050,125
Fixed deposits.....	57,232,308
Current accounts.....	772,419
Special current accounts.....	26,840,482
Deposits at notice.....	2,208,568
Special deposits.....	4,977,562
Public deposits.....	4,244,557
Interest and premium payable on Hypothec debentures..	20,126,411
Interest and premium payable on savings certificates...	56,562
Interest and premium payable on reconstruction certificates.....	1,385,499
Reserved for interest on reconstruction certificates.....	14,094,058
Fund for payment of premium on Hypothec debentures..	3,728,797
Fund for payment of premium on savings certificates...	217,699
Special fund for savings certificates.....	126,580
Suspense receipts.....	15,448,359
Net profits for the current half year.....	6,204,640
Balance brought over from previous half year.....	3,582,754
Total liabilities.....	1,169,611,868

^a See footnote a, p. 567.

^b Coupon bearing.

47. BALANCE SHEET OF INDUSTRIAL BANK OF JAPAN,
JUNE 30, 1930

ASSETS
(In yen)

Loans for fixed terms.....	263,200,049
Special loans to customers.....	47,350,887
Overdrafts.....	360,942
Bills discounted.....	68,751,130
Foreign exchange purchased.....	901,886
Current accounts.....	995,086
Special deposits.....	129,559
Discounts and charges on debentures issued.....	3,944,588
Discount of debentures unexpired.....	937,200
Government bonds.....	11,332,143
Local government bonds.....	8,290,107
Shares and debentures.....	52,705,063
Foreign securities.....	8,638,356
Due from other banks.....	787,508
Agencies accounts.....	26,457,844
Bank premises and furniture.....	5,197,724
Properties acquired through liquidation of debts...	1,145,274
Suspense accounts.....	577,842
Cash in hand.....	1,430,079
Total assets.....	503,133,267

LIABILITIES

Capital fully paid.....	50,000,000
Reserve for losses.....	13,874,798
Reserve for dividend equalization.....	3,190,800
Special reserve.....	3,500,000
Dividend unclaimed.....	58,181
Debentures issued.....	294,325,358
Current deposits.....	3,375,179
Fixed deposits.....	19,664,547
Special current accounts.....	7,032,947
Liabilities of customers on special loans.....	47,350,888
Deposits at notice.....	2,844,973
Special deposits.....	10,087,368
Funds in trust.....	27,140,783
Partial payment for loans.....	1,506,196
Loans payable.....	8,600,000
Call money.....	3,500,000
Interest on debentures unpaid.....	1,494,778
Due to other banks.....	49,987
Suspense accounts...	2,155,171
Caution money of the staff.....	140,879
Undivided profit.....	3,240,434
Total liabilities.....	503,133,267

48. GROWTH OF LIFE, FIRE, AND MARINE INSURANCE, 1914-1929 ^a
(In thousands of yen)

Year Ending March 31	Value of New Contracts		
	Life ^b	Fire ^c	Marine ^d
1914.....	278,487	10,685,576	1,542,510
1920.....	614,534	7,638,919	8,557,290
1921.....	639,328	12,052,873	8,282,269
1922.....	621,416	10,527,399	5,298,351
1923.....	699,988	12,076,538	5,075,448
1924.....	699,634	12,883,196	5,353,237
1925.....	927,825	15,761,752	5,952,827
1926.....	1,143,401	17,698,779	6,765,661
1927.....	1,140,479	17,992,036	6,085,353
1928.....	1,051,675	19,566,926	6,570,489
1929.....	1,212,720	20,265,931	7,134,422

^a Japanese Department of Commerce and Industry, Bureau of Insurance, *The Insurance Year Book*.

^b Includes annuity, sickness, and military service insurance, as well as ordinary life.

^c Covers personal and real property and forests.

^d Covers both ships and cargo.

49. GROWTH OF POST-OFFICE LIFE INSURANCE, 1917-1929 *
(Value figures in thousands of yen)

Year Ending March 31	Value of New Contracts	Value of Contracts Outstand- ing at the End of the Year	Receipts	Pay- ments	Reserves	Number of Insured per 1,000 of the Population
1917	25,105	24,509	493	197	296	5
1918	40,869	60,799	2,060	636	1,720	13
1919	55,631	105,841	4,253	1,610	4,364	21
1920	61,432	153,170	7,118	2,815	8,666	29
1921	88,728	224,514	10,303	4,255	14,713	40
1922	134,771	326,761	16,269	6,077	24,906	54
1923	196,477	477,598	24,233	8,745	40,394	72
1924	199,056	618,637	34,137	13,107	61,424	87
1925	281,624	821,650	48,051	16,273	93,202	109
1926	333,308	1,053,780	66,228	19,993	139,436	138
1927	339,637	1,286,508	87,175	25,694	200,916	164
1928	313,046	1,486,426	106,413	34,205	273,124	176
1929	369,608	1,737,833	126,094	42,368	356,850	198

* Japanese Government, Bureau of Statistics, *Statistical Annual*.

50. SPECIAL ACCOUNTS FOR WAR-TIME FINANCING
(In thousands of yen)

Account	Chino-Japanese War Accounts ^a	Russo-Japanese War Accounts ^b	Account World War ^c
REVENUES	225,231	1,721,212	900,547
Appropriations from the general account.....	23,440	182,430	305,605
Proceeds of loans floated.....	116,805	1,418,731	555,799 ^d
Special funds transferred	78,957	69,312	—
Other revenues— (Individual contri- butions, military railway revenues, etc.).....	6,029	50,739	39,143
EXPENDITURES	200,476	1,508,473	881,662
SURPLUS	24,755	212,739	18,885

^a Account closed March, 1896.

^b Account closed July, 1907.

^c Account closed April, 1925.

^d Includes temporary borrowings of 114,500,000 yen.

**51. RELATIVE GROWTH OF PRINCIPAL FORMS OF NATIONAL
GOVERNMENT REVENUE ^a**

(In thousands of yen for selected years ending March 31)

Form of Revenue	1892	1914	1922	1929
Excise on liquors.....	14,686	93,223	176,085	235,749
Income tax	1,110	35,591	200,938	206,741
Camphor, tobacco, and salt monopolies.....	—	69,297	124,289	177,201
Customs duties.....	4,539	73,722	100,941	150,944
Revenue stamps.....	—	30,830	86,327	86,579

^a Japanese Department of Finance, *Final Accounts, Revenues, and Expenditures*.

52. RELATIVE IMPORTANCE OF DIRECT AND INDIRECT TAXES,
NATIONAL GOVERNMENT, 1892-1929 ^a
(In thousands of yen)

Year Ending March 31	Total Taxes	Direct Taxes		Indirect Taxes	
		Amount	As Percentage of Total Taxes	Amount	As Percentage of Total Taxes
1892.....	64,422	40,377	62.7	24,045	37.3
1914.....	372,948	154,622	41.5	218 326	58.5
1922.....	785,851	363,172	46.2	422,679	53.8
1929.....	915,908	392,528 ^b	42.9	523,380	57.1

^a Japanese Department of Finance, *Final Accounts, Revenues, and Expenditures*.

^b Taxes on hunting licenses, registration fees, and stamp duties which account for revenues of 67,874,000 yen are not included in this total; for details see p. 409.

53. EXPENDITURES OF THE NATIONAL GOVERNMENT,
(In thousands)

Year Ending March 31	Allowance for Imperial Household	Pensions and Annuities	National Debt Services	Tax Collection Expenses	Educa- tional Expenses
1892.....	3,000	947	18,515	1,924	789
1914.....	4,500	31,633	153,532	8,984	14,614
1915.....	4,500	33,052	153,013	10,569	14,366
1916.....	4,500	34,293	130,353	9,938	14,365
1917.....	4,500	35,349	128,178	10,241	14,709
1918.....	4,500	36,194	151,155	11,682	14,916
1919.....	4,500	73,627	157,627	12,444	27,088
1920.....	4,500	40,315	139,243	13,678	29,132
1921.....	4,500	55,404	131,388	20,969	41,480
1922.....	4,500	73,225	112,027	21,858	51,966
1923.....	4,500	74,332	115,173	27,578	60,342
1924.....	4,500	84,203	163,182	26,196	97,582
1925.....	4,500	125,009	187,939	24,934	100,400
1926.....	4,500	129,687	221,462	23,679	107,676
1927.....	4,500	132,797	233,218	24,970	143,053
1928.....	4,500	139,055	285,700	24,283	148,461
1929.....	4,500	142,047	282,133	22,989	146,380
1930.....	4,500	145,609	280,342	23,699	121,232

* The army and navy budgets separate these items from significance, and from the point of view of general accounting naval establishments.

^b Exclusive of payments in respect of "national debt services"

^c Excluding the naval and military departments.

CLASSIFIED (GENERAL ACCOUNT), 1892-1930
of yen)

Military Expenses (Direct)	Expenses of Army and Navy Departments ^a	Payments to Special Accounts ^b	Earthquake Relief and Recon-struction	General Adminis-tration and Sundry ^c	Total
17,007	6,674	—	93	34,606	83,555
113,258	78,627	30,870	—	137,615	573,633
100,048	70,911	120,653	—	141,308	648,420
107,265	74,903	78,697	—	128,955	583,269
116,060	95,378	52,625	—	113,755	570,795
133,983	151,888	60,856	—	169,850	735,024
146,301	221,684	141,407	—	232,357	1,017,035
155,280	381,407	11,394	—	397,379	1,172,328
265,621	384,137	32,166	—	424,313	1,359,978
404,059	326,509	24,461	—	471,250	1,489,855
306,403	298,398	28,760	—	514,203	1,429,689
298,669	200,402	25,148	147,994	473,174	1,521,050
301,521	153,671	37,982	139,777	549,292	1,625,025
290,564	153,244	23,105	141,237	429,835	1,524,988
292,739	141,509	27,766	130,367	447,907	1,578,826
307,779	183,860	25,988	175,186	474,478	1,765,723
308,094	209,143	27,044	185,757	483,201	1,814,855
323,858	171,060	29,595	127,965	508,457	1,736,317

direct military expenses; but some of them are of direct military all must be charged to the maintenance of the military and and "educational expenses," which are given separately.

54. NATIONAL GOVERNMENT BONDS
(In yen for years)

Purpose of Issue	1922	1923	1924
Compensation for abolition of feudal system	206,500	57,275	147,800
Grants for services rendered.....	43,172,800	4,550,550	5,229,475
Purchase of railways.....	12,832,600	1,103,650	—
Compensation to tramways.....	1,081,000	267,600	209,900
Purchase of railways in Chosen...	3,687,250	3,023,050	—
Purchase of railways in Taiwan...	—	5,550,000	—
Retirement allowances.....	—	2,523,925	35,555,975
Relief.....	—	—	1,466,425
Earthquake reconstruction.....	—	—	—
Compensation to the Bank of Japan for loss resulting from the "earthquake bills".....	—	—	—
Loans to banks for liquidation of the "earthquake bills".....	—	—	—
"Nishihara loan" liquidation.....	—	—	—
Compensation to shipyards in connection with limitation of naval armaments.....	—	—	—
Compensation to the Bank of Japan for loss resulting from advances for Taiwan relief.....	—	—	—
Purchase of salt field.....	—	—	—
Total.....	60,980,150	17,085,050	42,609,575

* Compiled by the Bank of Japan.

DELIVERED IN LIEU OF CASH, 1922-1930 *
ending March 31)

1925	1926	1927	1928	1929	1930
38,075	919,200	59,850	39,525	31,675	37,250
2,070,875	2,938,600	12,850	2,825	4,475	2,000
—	1,732,600	658,100	7,374,150	15,774,700	—
—	650,100	—	—	—	675,450
—	—	—	4,470,800	7,570,000	5,804,700
—	—	—	4,323,900	—	1,642,050
7,168,925	39,091,550	5,726,150	191,700	40,450	—
1,491,675	2,950	999,125	750	300	200
16,239,075	22,155,350	6,230,500	5,587,400	2,674,125	2,269,800
—	—	—	95,070,825	14,674,150	—
—	—	—	76,619,300	1,669,100	—
—	—	82,902,550	52,036,325	—	21,091,850
—	—	20,000,000	—	—	—
—	—	—	—	204,987,225	—
—	—	—	—	—	120,575
27,008,625	67,490,350	116,589,125	245,717,500	247,426,200	31,643,875

55. EXPENDITURES OF ALL LOCAL
(Classified According
(In thousands)

Year Ending March 31	Education	Public Works (Roads, bridges, river embank- ments, etc.)	Sanitation (Including waterworks, sewerage, etc.)	Encour- agement of In- dustries	Social Services	Public Office Expenses
1892.....	8,625	13,455	942	261	42	12,473
1898.....	18,114	30,510	3,145	1,799	75	16,960
1908.....	56,939	39,345	12,836	8,842	136	26,975
1913.....	79,799	45,938	23,220	10,954	1,178	35,019
1914.....	76,289	48,681	22,604	12,441	1,216	35,010
1915.....	74,577	54,827	19,414	10,949	1,502	35,924
1916.....	75,758	50,995	19,775	10,884	1,396	36,249
1917.....	79,602	39,339	22,662	11,439	1,478	36,744
1918.....	91,324	45,330	23,226	12,425	1,429	40,440
1919.....	122,990	63,231	28,105	18,179	12,504	50,331
1920.....	177,171	84,869	41,722	23,897	15,100	75,470
1921.....	254,353	138,940	67,504	34,057	10,318	101,191
1922.....	287,974	154,587	72,629	42,753	9,057	102,215
1923.....	331,420	192,266	85,353	48,590	11,915	111,135
1924.....	359,135	198,998	84,525	59,188	18,818	118,130
1925.....	376,265	208,139	89,355	51,566	16,093	121,802
1926.....	381,874	205,340	103,517	58,496	23,275	126,445
1927.....	420,097	235,322	105,776	70,496	20,598	130,614
1928.....	456,405	292,416	103,747	72,690	21,409	141,834
1929.....	478,643	303,539	125,216	78,492	19,184	145,352
1930 ^c	442,648	242,922	120,958	81,454	20,912	140,096

* These totals do not precisely equal the sum of the separate items since

^b Includes a deficit of 2,231,000 yen incurred from the operation of

^c The data for this year are budget figures, rather than final accounts.

GOVERNMENTS, 1892-1930
to Purpose)
of yen)

Expenses of Municipal Assemblies, Etc.	Public Debt Service	Policing Expenses	Town Planning Expenses	Taxes and Other Charges	Building up of Corporate Funds or Property	Others	Total ^a
665	440	4,818	...	122	...	1,165	43,007
825	4,174	6,013	...	1,763	...	5,439	88,818
1,679	10,141	13,111	7,455	7,090	7,670	13,103	205,322
1,715	23,425	17,993	3,040	9,997	9,642	58,534	320,454
1,909	27,769	18,161	2,048	9,726	14,446	14,609	284,907
1,866	31,009	18,788	1,411	9,625	13,274	17,778	290,944
1,943	27,985	18,979	880	9,853	13,201	18,382	286,279
1,919	47,076	19,728	1,059	10,481	14,944	16,908	303,379
2,126	36,961	21,528	1,348	11,783	20,845	20,311	329,075
2,560	56,222	28,475	3,798	14,566	24,853	28,616	454,430
3,631	39,244	42,003	1,726	21,106	25,123	40,767	591,828
4,707	44,477	58,270	13,163	34,280	28,237	60,725	850,221
5,228	61,735	68,450	13,266	43,529	35,919	62,993	960,336
5,449	81,218	68,988	11,931	54,455	39,571	76,890	1,119,180
5,635	95,959	82,820	11,688	9,856	33,128	59,167	1,139,277 ^b
5,434	125,050	80,003	15,381	9,694	37,719	63,004	1,119,505
6,014	175,792	83,694	26,514	10,568	40,371	61,982	1,303,883
6,436	247,136	88,353	28,064	14,287	37,743	81,808	1,486,728
6,514	489,381	92,535	24,216	11,026	36,246	99,753	1,858,172
6,661	314,428	96,030	35,415	12,429	34,079	20,641	1,770,109
7,439	243,354	92,167	47,273	10,944	31,741	95,202	1,577,112

the hundreds digits were ignored in the original data.
public utilities.

56. REVENUES OF ALL LOCAL
(In thousands)

Year Ending March 31	Taxes and Rates	Receipts from Properties	Net Income from Public Utilities, Rents, and Fees ^a
1892.....	30,049	764	60
1898.....	53,035	1,759	314
1908.....	128,819	5,117	4,408
1913.....	190,754	6,270	21,280
1914.....	185,004	7,597	927
1915.....	185,992	7,261	9,689
1916.....	183,745	9,137	17,952
1917.....	193,838	8,928	20,863
1918.....	221,967	11,675	5,365
1919.....	276,596	13,418	25,871
1920.....	397,312	20,207	22,756
1921.....	564,945	20,766	30,530
1922.....	628,535	22,239	39,005
1923.....	694,851	24,136	32,882
1924.....	600,473	24,079	^d
1925.....	617,839	26,369	62,145
1926.....	633,912	28,702	75,492
1927.....	653,821	29,437	88,794
1928.....	625,107	31,218	95,123
1929.....	656,716	31,894	100,749
1930 ^e	674,976	28,106	68,592

^a The government's tables give "gross income from public of operation on the expenditure side under the heading "public we have deducted the expenses from the revenues in order to expenses, hence the net income" tends to be understated. The gross income item referred to, or from 20,000,000 to 25,000,000

^b These totals do not precisely equal the sum of the separate data.

^c The amount for this year is included under "contributions

^d Deficit of 2,231,000 yen.

^e The data for this year are budget figures, rather than final

GOVERNMENTS, CLASSIFIED, 1892-1930
of yen)

Contributions from Central or Prefectural Governments	Compensation for Services Rendered Superior Administrative Bodies	Other Revenues (Contributions, fines, income from the employment of funds, etc.)	Total ^b
9,364	841	6,350	47,429
10,252	c	16,423	81,783
12,119	2,482	31,860	184,805
11,103	3,720	59,947	293,074
12,836	4,088	53,652	264,104
14,379	5,114	51,200	273,634
13,801	5,923	47,756	278,313
10,415	6,109	55,615	295,768
11,056	6,390	64,985	321,438
13,347	7,419	112,795	449,446
18,301	9,858	122,468	590,901
33,186	11,672	149,729	810,827
40,523	11,906	180,697	922,906
44,998	13,710	235,169	1,045,847
57,923	15,783	264,088	962,345
66,100	14,051	181,929	968,433
66,254	15,199	246,040	1,065,599
78,021	15,734	289,245	1,155,052
107,193	14,914	398,809	1,272,364
126,255	14,171	358,268	1,288,053
87,673	13,685	343,619	1,216,651

utilities, rents and fees" on the revenue side, and carry expenses utilities (electric and gas works)." For purposes of this table, show the net income. Some capital outlays are included under rents and fees are estimated to equal about 10 per cent of the yen, in recent years.

items because the hundreds digits were ignored in the original

from central or prefectural governments."

accounts.

57. REVENUE AND EXPENDITURE OF ALL LOCAL GOVERNMENTS,
1892-1930

(In thousands of yen)

Year Ending March 31	Expendi- ture	Non- Borrowed Revenue	Surplus (+) or Deficit (-)	Loans Floated	Accum- ulated Surplus *
1892.....	43,007	47,429	+ 4,422	455	7,312
1898.....	88,818	81,783	- 7,035	6,904	9,457
1908.....	205,322	184,805	- 20,517	21,778	30,630
1910.....	268,248	228,649	- 39,599	76,524	66,753
1911.....	282,080	245,503	- 36,577	43,695	69,385
1912.....	389,754	332,200	- 57,554	37,592	81,732
1913.....	320,545	293,074	- 27,380	32,408	54,914
1914.....	310,754	289,950	- 20,804	23,059	45,106
1915.....	310,090	292,780	- 17,310	28,338	43,678
1916.....	300,987	293,021	- 7,966	22,775	44,838
1917.....	317,794	310,183	- 7,610	24,855	45,972
1918.....	366,549	358,911	- 7,638	68,044	90,288
1919.....	480,206	475,222	- 4,984	23,401	90,869
1920.....	631,467	630,541	- 926	78,254	155,362
1921.....	915,614	876,220	- 39,394	121,842	196,430
1922.....	1,034,984	997,553	- 37,431	143,545	251,864
1923.....	1,217,054	1,143,721	- 73,333	171,656	267,393
1924.....	1,253,754	1,076,821	- 176,933	196,840	279,164
1925.....	1,306,100	1,075,028	- 231,072	209,398	305,344
1926.....	1,409,196	1,170,912	- 238,284	206,447	284,726
1927.....	1,593,997	1,258,321	- 335,676	368,956	310,315
1928.....	1,969,307	1,383,498	- 585,809	633,317	303,532
1929.....	1,893,809	1,411,753	- 482,056	441,633	...
1930 ^b	1,752,943	1,392,483	- 360,460	297,558	...

* The annual changes in the accumulated surplus do not exactly coincide with the sum of the "surplus or deficit" and "loans floated" items—owing to transfers to special accounts for debt redemption purposes, etc.

^b The data for this year are budget figures, rather than final accounts.

58. LOCAL INDEBTEDNESS, 1913-1929 *
Classified According to Borrowing Agencies
(In thousands of yen)

Year Ending March 31	Prefec- tures	Counties	Cities	Towns and Villages	Irrigation Associa- tions	Total
1913....	37,321	2,161	247,622	13,019	6,834	306,957
1914....	44,198	2,283	251,097	11,209	7,836	316,623
1915....	49,582	1,922	254,718	12,001	8,378	326,602
1916....	54,472	1,845	260,065	11,541	8,968	336,890
1917....	52,929	1,874	265,541	10,602	8,847	339,794
1918....	54,137	1,854	301,434	10,712	9,183	377,319
1919....	58,559	1,817	308,460	11,673	9,082	389,591
1920....	69,524	2,870	326,685	14,918	10,141	424,139
1921....	110,664	3,788	356,248	29,008	9,851	509,559
1922....	132,825	4,365	465,767	39,113	12,338	654,407
1923....	165,152	2,478	547,217	55,254	18,182	788,283
1924....	193,205	—	624,845	81,656	24,827	924,532
1925....	269,117	—	727,748	95,597	26,677	1,119,139
1926....	282,475	—	839,746	115,699	30,022	1,267,943
1927....	329,326	—	1,017,515	131,270	35,136	1,513,247
1928....	379,439	—	1,258,942	167,541	38,513	1,844,434
1929....	425,795	—	1,371,867	212,097	40,623	2,050,383

* Japanese Department of Home Affairs, *Summary of Local Finance*.

59. GROWTH OF THE NATIONAL DEBT OF JAPAN, 1870-1930.^a
(In thousands of yen)

Calendar Year	Domestic Debt (Exclusive of state railway and iron foundry debts)			Foreign Debt	Total National Debt (Exclusive of state railway and iron foundry debts)	State Railway Debt (Funded)	Iron Foundry Debt (Funded)
	Funded	Short-Term ^b	Total				
1870.....	—	—	—	9,760	9,760	—	—
1871.....	—	—	—	9,760	9,760	—	—
1872.....	23,176	—	23,176	9,760	32,936	—	—
1873.....	24,537	—	24,537	32,208	56,745	—	—
1874.....	31,304	—	31,304	31,232	62,536	—	—
1875.....	40,916	—	40,916	29,788	70,704	—	—
1876.....	39,772	—	39,772	28,311	68,083	—	—
1877.....	213,455	—	213,455	26,798	240,253	—	—
1878.....	224,740	—	224,740	25,248	249,988	—	—
1879.....	223,370	—	223,370	23,658	247,028	—	—
1880.....	223,326	—	223,326	22,025	245,351	—	—
1881.....	220,954	—	220,954	20,347	241,301	—	—
1882.....	216,202	—	216,202	18,618	234,820	—	—
1883.....	208,756	—	208,756	17,813	226,569	—	—
1884.....	221,386	—	221,386	16,952	238,338	—	—
1885.....	223,241	—	223,241	16,031	239,272	—	—
1886.....	222,472	17,250	239,722	15,044	254,766	—	—
1887.....	230,987	17,370	248,357	13,989	262,346	—	—
1888.....	236,117	7,480	243,597	12,861	256,458	—	—
1889.....	244,227	—	244,227	11,652	255,879	—	—
1890.....	212,927	—	212,927	10,360	223,287	25,130 ^c	—
1891.....	216,409	—	216,409	8,977	225,386	21,728	—
1892.....	217,428	—	217,428	7,498	224,926	24,717	—
1893.....	205,135	—	205,135	5,915	211,050	26,723	—
1894.....	202,837	—	202,837	4,220	207,057	26,723	—
1895.....	290,697	—	290,697	2,407	293,104	28,723	—
1896.....	316,431	—	316,431	468	316,899	34,457	—
1897.....	332,685	—	332,685	—	332,685	50,268	—
1898.....	341,080	—	341,080	—	341,080	50,202	—
1899.....	304,244	—	304,244	97,630	401,874	76,827	—

1900.	311,420	—	311,420	97,630	409,050	77,414
1901.	310,388	10,000	320,388	97,630	418,018	88,747
1902.	318,337	20,000	338,337	97,630	435,967	102,427
1903.	337,539	10,000	347,539	97,630	445,169	103,794
1904.	541,282	35,000	576,282	312,416	888,698	106,446
1905.	834,120	104,000	938,120	1,142,271	2,080,391	106,192
1906.	926,205	98,400	1,024,605	1,146,176	2,170,781	116,667
1907.	897,874	48,600	946,474	1,165,701	2,112,175	180,321
1908.	850,445	49,200	899,645	1,165,701	2,065,346	198,361
1909.	814,538	57,000	871,538	1,165,676	2,037,214	605,337
1910.	570,344	65,000	635,344	1,447,218	2,082,562	612,561
1911.	505,417	80,000	585,417	1,437,449	2,022,866	612,513
1912.	538,949	40,000	578,949	1,427,684	2,005,633	612,413
1913.	348,206	20,000	368,206	1,524,608	1,892,814	718,897
1914.	307,516	—	307,516	1,524,603	1,832,119	728,660
1915.	289,408	27,000	289,408	1,493,156	1,782,564	732,060
1916.	377,379	—	377,379	1,384,853	1,762,232	720,086
1917.	542,037	—	542,037	1,348,587	1,890,624	764,944
1918.	886,114	—	886,114	1,311,138	2,197,252	793,749
1919.	1,160,391	—	1,160,391	1,311,138	2,471,529	834,903
1920.	1,185,530	30,000	1,215,530	1,428,294	2,643,824	1,034,431
1921.	1,650,095	40,475	1,690,570	1,362,370	3,052,940	1,032,452
1922.	1,784,378	1,076	1,785,454	1,358,973	3,144,427	1,111,997
1923.	1,941,291	11,692	1,952,983	1,320,614	3,273,597	1,151,876
1924.	1,996,570	28,100	2,024,670	1,514,266	3,538,936	1,231,339
1925.	2,220,877	—	2,220,877	1,500,215	3,721,092	1,305,023
1926.	2,350,763	—	2,350,763	1,477,869	3,828,632	1,333,626
1927.	2,466,370	24,613	2,490,983	1,460,232	3,951,215	1,409,805
1928.	2,829,377	—	2,829,377	1,453,093	4,282,470	1,491,473
1929.	2,859,845	126,672	2,986,517	1,446,894	4,433,411	1,573,375
1930.	2,796,172	190,000	2,986,172	1,567,325	4,553,497	1,640,307
1931.	—	—	—	—	—	—
1932.	—	—	—	—	—	—
1933.	—	—	—	—	—	—
1934.	—	—	—	—	—	—
1935.	—	—	—	—	—	—
1936.	—	—	—	—	—	—
1937.	—	—	—	—	—	—
1938.	—	—	—	—	—	—
1939.	—	—	—	—	—	—
1940.	—	—	—	—	—	—
1941.	—	—	—	—	—	—
1942.	—	—	—	—	—	—
1943.	—	—	—	—	—	—
1944.	—	—	—	—	—	—
1945.	—	—	—	—	—	—
1946.	—	—	—	—	—	—
1947.	—	—	—	—	—	—
1948.	—	—	—	—	—	—
1949.	—	—	—	—	—	—
1950.	—	—	—	—	—	—
1951.	—	—	—	—	—	—
1952.	—	—	—	—	—	—
1953.	—	—	—	—	—	—
1954.	—	—	—	—	—	—
1955.	—	—	—	—	—	—
1956.	—	—	—	—	—	—
1957.	—	—	—	—	—	—
1958.	—	—	—	—	—	—
1959.	—	—	—	—	—	—
1960.	—	—	—	—	—	—
1961.	—	—	—	—	—	—
1962.	—	—	—	—	—	—
1963.	—	—	—	—	—	—
1964.	—	—	—	—	—	—
1965.	—	—	—	—	—	—
1966.	—	—	—	—	—	—
1967.	—	—	—	—	—	—
1968.	—	—	—	—	—	—
1969.	—	—	—	—	—	—
1970.	—	—	—	—	—	—
1971.	—	—	—	—	—	—
1972.	—	—	—	—	—	—
1973.	—	—	—	—	—	—
1974.	—	—	—	—	—	—
1975.	—	—	—	—	—	—
1976.	—	—	—	—	—	—
1977.	—	—	—	—	—	—
1978.	—	—	—	—	—	—
1979.	—	—	—	—	—	—
1980.	—	—	—	—	—	—
1981.	—	—	—	—	—	—
1982.	—	—	—	—	—	—
1983.	—	—	—	—	—	—
1984.	—	—	—	—	—	—
1985.	—	—	—	—	—	—
1986.	—	—	—	—	—	—
1987.	—	—	—	—	—	—
1988.	—	—	—	—	—	—
1989.	—	—	—	—	—	—
1990.	—	—	—	—	—	—
1991.	—	—	—	—	—	—
1992.	—	—	—	—	—	—
1993.	—	—	—	—	—	—
1994.	—	—	—	—	—	—
1995.	—	—	—	—	—	—
1996.	—	—	—	—	—	—
1997.	—	—	—	—	—	—
1998.	—	—	—	—	—	—
1999.	—	—	—	—	—	—
2000.	—	—	—	—	—	—
2001.	—	—	—	—	—	—
2002.	—	—	—	—	—	—
2003.	—	—	—	—	—	—
2004.	—	—	—	—	—	—
2005.	—	—	—	—	—	—
2006.	—	—	—	—	—	—
2007.	—	—	—	—	—	—
2008.	—	—	—	—	—	—
2009.	—	—	—	—	—	—
2010.	—	—	—	—	—	—
2011.	—	—	—	—	—	—
2012.	—	—	—	—	—	—
2013.	—	—	—	—	—	—
2014.	—	—	—	—	—	—
2015.	—	—	—	—	—	—
2016.	—	—	—	—	—	—
2017.	—	—	—	—	—	—
2018.	—	—	—	—	—	—
2019.	—	—	—	—	—	—
2020.	—	—	—	—	—	—
2021.	—	—	—	—	—	—
2022.	—	—	—	—	—	—
2023.	—	—	—	—	—	—
2024.	—	—	—	—	—	—
2025.	—	—	—	—	—	—
2026.	—	—	—	—	—	—
2027.	—	—	—	—	—	—
2028.	—	—	—	—	—	—
2029.	—	—	—	—	—	—
2030.	—	—	—	—	—	—
2031.	—	—	—	—	—	—
2032.	—	—	—	—	—	—
2033.	—	—	—	—	—	—
2034.	—	—	—	—	—	—
2035.	—	—	—	—	—	—
2036.	—	—	—	—	—	—
2037.	—	—	—	—	—	—
2038.	—	—	—	—	—	—
2039.	—	—	—	—	—	—
2040.	—	—	—	—	—	—
2041.	—	—	—	—	—	—
2042.	—	—	—	—	—	—
2043.	—	—	—	—	—	—
2044.	—	—	—	—	—	—
2045.	—	—	—	—	—	—
2046.	—	—	—	—	—	—
2047.	—	—	—	—	—	—
2048.	—	—	—	—	—	—
2049.	—	—	—	—	—	—
2050.	—	—	—	—	—	—
2051.	—	—	—	—	—	—
2052.	—	—	—	—	—	—
2053.	—	—	—	—	—	—
2054.	—	—	—	—	—	—
2055.	—	—	—	—	—	—
2056.	—	—	—	—	—	—
2057.	—	—	—	—	—	—
2058.	—	—	—	—	—	—
2059.	—	—	—	—	—	—
2060.	—	—	—	—	—	—
2061.	—	—	—	—	—	—
2062.	—	—	—	—	—	—
2063.	—	—	—	—	—	—
2064.	—	—	—	—	—	—
2065.	—	—	—	—	—	—
2066.	—	—	—	—	—	—
2067.	—	—	—	—	—	—
2068.	—	—	—	—	—	—
2069.	—	—	—	—	—	—
2070.	—	—	—	—	—	—
2071.	—	—	—	—	—	—
2072.	—	—	—	—	—	—
2073.	—	—	—	—	—	—
2074.	—	—	—	—	—	—
2075.	—	—	—	—	—	—
2076.	—	—	—	—	—	—
2077.	—	—	—	—	—	—
2078.	—	—	—	—	—	—
2079.	—	—	—	—	—	—
2080.	—	—	—	—	—	—
2081.	—	—	—	—	—	—
2082.	—	—	—	—	—	—
2083.	—	—	—	—	—	—
2084.	—	—	—	—	—	—
2085.	—	—	—	—	—	—
2086.	—	—	—	—	—	—
2087.	—	—	—	—	—	—
2088.	—	—	—	—	—	—
2089.	—	—	—	—	—	—
2090.	—	—	—	—	—	—
2091.	—	—	—	—	—	—
2092.	—	—	—	—	—	—
2093.	—	—	—	—	—	—
2094.	—	—	—	—	—	—
2095.	—	—	—	—	—	—
2096.	—	—	—	—	—	—
2097.	—	—	—	—	—	—
2098.	—	—	—	—	—	—
2099.	—	—	—	—	—	—
2100.	—	—	—	—	—	—
2101.	—	—	—	—	—	—
2102.	—	—	—	—	—	—
2103.	—	—	—	—	—	—
2104.	—	—	—	—	—	—
2105.	—	—	—	—	—	—
2106.	—	—	—	—	—	—
2107.	—	—	—	—	—	—
2108.	—	—	—	—	—	—
2109.	—	—	—	—	—	—
2110.	—	—	—	—	—	—
2111.	—	—	—	—	—	—
2112.	—	—	—	—	—	—
2113.	—	—	—	—	—	—
2114.	—	—	—	—	—	—
2115.	—	—	—	—	—	—
2116.	—	—	—	—	—	—
211						

60. NATIONAL DEBTS CLASSIFIED BY
(In thousands)

Year Ending March 31	General Account	State Railway Debt	Iron Foundry Debt	Colonial		
				Chosen	Taiwan	Karafuto
1917.....	1,689,619	720,079	—	31,052	26,951	—
1918.....	1,660,797	764,942	—	46,052	26,951	—
1919.....	1,694,757	793,749	—	59,287	30,951	1,200
1920.....	1,848,029	835,288	—	73,722	34,143	2,376
1921.....	2,161,706	937,546	—	96,930	43,350	4,508
1922.....	2,294,101	1,049,449	—	131,413	59,828	9,077
1923.....	2,411,507	1,121,996	—	176,730	79,343	18,015
1924.....	2,743,431	1,171,574	—	181,332	80,580	19,495
1925.....	2,746,679	1,258,728	—	212,565	88,263	22,318
1926.....	3,344,394	1,311,643	—	227,425	91,013	22,941
1927.....	3,446,317	1,362,301	—	242,434	94,013	24,941
1928.....	3,518,668	1,450,267	25,604	269,780	103,746	27,039
1929.....	3,845,061	1,521,673	25,604	297,072	109,012	29,077
1930.....	3,869,444	1,598,941	25,604	318,451	113,662	29,088

* Japanese Department of Finance, *Statistical Annual of*

^b The "special exchequer notes" account has been closed and 1925-26. In the diagram on p. 241 the account is consolidated

^c These totals do not precisely equal the sum of the separate data.

SEPARATE ACCOUNTS, 1917-1930 *
of yen)

Accounts		Special ^b Exchequer Notes	Total Funded ^c Debt	Short-term Debts		Total Debt ^c
Kwan- tung	Nanyo			Treasury Bills	Rice Purchase Notes	
—	—	—	2,467,701	—	—	2,467,701
—	—	199,997	2,698,741	—	—	2,698,741
—	—	471,829	3,051,776	—	—	3,051,776
—	—	484,311	3,277,872	—	—	3,277,872
—	—	533,221	3,777,263	43,500	—	3,820,763
—	—	533,244	4,077,115	—	20,202	4,097,318
1,067	—	533,234	4,341,895	—	15,592	4,357,488
1,176	—	532,364	4,729,955	—	12,012	4,741,967
1,176	—	533,280	4,863,013	—	38,360	4,901,373
1,681	77	...	4,999,176	—	16,044	5,015,221
1,681	77	...	5,171,766	—	6,092	5,177,858
2,681	77	...	5,397,862	—	56,683	5,454,545
3,681	77	...	5,831,261	—	14,625	5,845,886
4,186	77	...	5,959,457	—	43,591	6,003,048

National Debt.

the outstanding debt taken over by the general account since throughout with the general account.
items since the hundreds digits were ignored in the original

61. LOCAL GOVERNMENT BONDS OUTSTANDING, 1913-1929
Classified by Purpose of Issue
(In thousands of yen)

Year Ending March 31	Education	Public Works (Roads, bridges, river embankment, etc.)	Sanitation (including water-works, sewerage, etc.)	Encour- agement of Industry	Social Services	Others	Total (Exclusive of electric and gas works)	Electric and Gas Works
1913.....	14,683	91,663	48,982	15,244	—	3,767	174,339	132,618
1914.....	12,473	98,872	51,533	17,455	—	3,578	183,911	132,712
1915.....	11,171	104,362	55,109	16,478	—	5,167	192,287	134,315
1916.....	10,135	110,559	58,213	15,900	—	5,122	199,929	136,969
1917.....	9,607	105,012	58,162	15,287	—	7,560	195,528	144,267
1918.....	10,221	103,935	70,867	14,970	—	8,041	208,034	169,285
1919.....	13,258	105,256	76,978	13,124	—	7,572	216,188	173,404
1920.....	18,606	115,204	75,751	15,072	6,049	6,730	237,412	186,726
1921.....	29,710	155,450	83,476	3,171	21,963	18,278	312,048	197,511
1922.....	47,306	206,436	114,002	6,447	32,484	11,531	418,206	236,201
1923.....	62,919	226,407	148,007	33,717	45,660	29,441	545,151	243,132
1924.....	79,344	226,094	132,436	10,960	61,452	108,292	618,578	305,953
1925.....	94,159	323,583	137,636	25,467	90,296	74,568	745,709	373,429
1926.....	102,777	314,795	160,986	21,562	124,124	135,041	859,285	408,657
1927.....	134,658	410,822	179,973	35,254	113,955	165,889	1,040,551	472,696
1928.....	169,576	466,889	214,397	45,170	131,175	267,838	1,295,045	549,389
1929.....	172,175	477,916	272,206	76,435	134,461	362,818	1,495,011	554,372

62. GROWTH OF FOREIGN TRADE OF JAPAN PROPER, 1868-1929 *
(In thousands of yen)

Year	Imports (Un- adjusted)	Exports (Un- adjusted)	Total Trade		Trade Balance ^c (Un- adjusted)
			Unadjusted	Adjusted ^b	
1868.....	10,693	15,553	26,246	...	4,860
1869.....	20,783	12,908	33,691	...	— 7,875
1870.....	33,741	14,543	48,284	...	— 19,198
1871.....	21,916	17,968	39,884	...	— 3,948
1872.....	26,174	17,026	43,200	...	— 9,148
1873.....	28,107	21,635	49,742	...	— 6,472
1874.....	23,461	19,317	42,778	...	— 4,144
1875.....	29,975	18,611	48,586	...	— 11,364
1876.....	23,964	27,711	51,675	...	3,747
1877.....	27,420	23,348	50,768	...	— 4,072
1878.....	32,874	25,988	58,862	...	— 6,886
1879.....	32,953	28,175	61,128	...	— 4,778
1880.....	36,626	28,395	65,021	...	— 8,231
1881.....	31,191	31,058	62,249	...	— 133
1882.....	29,446	37,721	67,167	...	8,275
1883.....	28,444	36,268	64,712	...	7,824
1884.....	29,672	33,871	63,543	...	4,199
1885.....	29,356	37,146	66,502	...	7,790
1886.....	32,168	48,876	81,044	...	16,708
1887.....	44,304	52,407	96,711	...	8,103
1888.....	65,455	65,705	131,160	...	250
1889.....	66,103	70,060	136,163	...	3,957
1890.....	81,728	56,603	138,331	...	— 25,125
1891.....	62,927	79,527	142,454	...	16,600
1892.....	71,326	91,102	162,428	...	19,776
1893.....	88,257	89,712	177,969	...	1,455
1894.....	117,481	113,246	230,727	...	— 4,235
1895.....	129,260	136,112	265,372	...	6,852
1896.....	171,674	117,842	289,516	...	— 53,832
1897.....	219,300	163,135	382,435	...	— 56,165
1898.....	277,502	165,753	443,255	...	—111,749
1899.....	220,401	214,929	435,330	...	— 5,472
1900.....	287,261	204,429	491,690	491,690	— 82,832
1901.....	255,816	252,349	508,165	529,339	— 3,467
1902.....	271,731	258,303	530,034	546,991	— 13,428
1903.....	317,135	289,502	606,637	588,397	— 27,633
1904.....	371,360	319,260	690,620	637,103	— 52,100

GROWTH OF FOREIGN TRADE OF JAPAN PROPER, 1868-1929 *—Contd.

Year	Imports (Un- adjusted)	Exports (Un- adjusted)	Total Trade		Trade Balance * (Un- adjusted)
			Unadjusted	Adjusted ^b	
1905.....	488,538	321,533	810,071	695,937	-167,005
1906.....	418,784	423,754	842,538	703,875	4,970
1907.....	494,467	432,412	926,879	716,844	- 62,055
1908.....	436,257	378,245	814,502	654,218	- 58,012
1909.....	394,198	413,112	807,310	679,554	18,914
1910.....	464,233	458,428	922,661	766,967	- 5,805
1911.....	513,805	447,433	961,238	770,840	- 66,372
1912.....	618,992	526,981	1,145,973	867,504	- 92,011
1913.....	729,431	632,460	1,361,891	1,029,396	- 96,971
1914.....	595,735	591,101	1,186,836	939,696	- 4,634
1915.....	532,449	708,306	1,240,755	970,857	175,857
1916.....	756,427	1,127,468	1,883,895	1,218,561	371,041
1917.....	1,035,811	1,603,005	2,638,816	1,356,718	567,194
1918.....	1,668,143	1,962,100	3,630,243	1,424,742	293,957
1919.....	2,173,459	2,098,872	4,272,331	1,368,898	- 74,587
1920.....	2,336,174	1,948,394	4,284,568	1,248,417	-387,780
1921.....	1,614,154	1,252,837	2,866,991	1,081,475	-361,317
1922.....	1,890,308	1,637,451	3,527,759	1,362,069	-252,857
1923.....	1,982,230	1,447,750	3,429,980	1,301,700	-534,480
1924.....	2,453,402	1,807,034	4,260,436	1,559,457	-646,368
1925.....	2,572,657	2,305,589	4,878,246	1,828,428	-267,068
1926.....	2,377,484	2,044,727	4,422,211	1,868,277	-332,757
1927.....	2,179,153	1,992,317	4,171,470	1,857,288	-186,836
1928.....	2,196,314 ^d	1,971,955 ^d	4,168,269	1,843,551	-224,359
1929.....	2,216,240 ^d	2,148,618 ^d	4,364,858	1,985,832	- 67,622

* Japanese Department of Finance, *Annual Return of the Foreign Trade of the Empire of Japan, 1867-1927; Monthly Return of the Foreign Trade of Japan, 1928-1929.*

This table does not include trade between Japan and Taiwan, Chosen, Karafuto and Nanyo. It does, however, include the strictly foreign trade of Karafuto and Nanyo, the former since 1905 and the latter since 1928. The separate figures for Karafuto and Nanyo will be found on pages 606-7. Kwantung is considered as a foreign country.

^b Derived by use of the Bank of Japan index of wholesale prices of commodities at Tokyo with a base of 1900 = 100. This index is constructed by means of 56 commodity price series.

^c The minus sign indicates net imports.

^d The discrepancy between these totals and those for similar items shown in Table 64 on p. 596 is explained by the fact that in the present case the values of re-exports and re-imports are included while in the latter such values are excluded.

63. GEOGRAPHIC DISTRIBUTION OF FOREIGN TRADE OF JAPAN PROPER, BY SELECTED YEARS *
(In thousands of yen)

Source of Destination	1897		1913		1921		1929	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
United States.....	27,030	52,436	122,408	184,473	574,400	496,278	654,055	914,101
China.....	29,265	21,325	61,223	154,660	191,678	287,227	209,974	346,652
British India.....	29,775	5,563	173,173	29,873	210,365	84,503	288,107	198,056
Kwantung Province.....	—	—	30,877	29,836	111,931	77,569	166,322	124,476
Great Britain.....	65,406	8,481	122,736	32,869	184,306	32,772	153,050	63,183
Dutch East Indies.....	—	—	37,389	5,148	70,427	54,204	77,346	87,125
Australia.....	897	1,875	14,943	8,637	36,398	21,558	132,600	44,075
France.....	5,147	26,213	5,828	60,229	11,691	35,166	26,185	44,494
Germany.....	18,143	2,207	68,394	13,131	47,713	2,413	157,273	13,446
Hongkong.....	12,027	25,390	1,294	33,621	1,017	59,304	607	61,065
Other areas.....	31,610	19,645	91,166	79,983	174,228	101,843	350,721	251,945
Total.....	219,300	163,135	729,431	632,460	1,614,154	1,252,837	2,216,240	2,148,618

* Japanese Department of Finance, *Monthly Return of the Foreign Trade of Japan*. See also footnote a of Table 62, p. 593.

64. FOREIGN TRADE OF JAPAN PROPER, BY CLASSES OF COMMODITIES, 1909-1929 *
(In thousands of yen)
I. Imports

Period	Foodstuffs		Raw Materials		Semi-finished Manufactures		Finished Manufactures		Miscellaneous		Total
	Value	Per-centage of Total	Value	Per-centage of Total	Value	Per-centage of Total	Value	Per-centage of Total	Value	Per-centage of Total	
1909-1913 (Average)	68,131	12.5	257,033	47.2	100,948	18.6	114,706	21.1	3,314	0.6	544,132
1914.....	78,740	13.2	328,741	55.2	96,253	16.2	87,249	14.6	4,752	0.8	595,735
1915.....	38,141	7.1	339,836	63.8	98,377	18.5	51,473	9.7	4,622	0.9	532,449
1916.....	31,447	4.2	431,904	57.1	201,561	26.6	85,001	11.2	6,514	0.9	756,427
1917.....	36,845	3.6	564,610	54.5	322,507	31.1	103,705	10.0	8,144	0.8	1,035,811
1918.....	175,507	10.5	855,137	51.3	457,643	27.4	169,374	10.2	10,482	0.6	1,668,143
1919.....	351,323	16.2	1,093,754	50.3	451,387	20.8	261,161	12.0	15,834	0.7	2,173,459
1920.....	222,404	9.5	1,260,106	53.9	509,067	21.8	328,400	14.1	16,197	0.7	2,336,174
1921.....	208,329	12.9	757,020	46.9	324,058	20.1	311,469	19.3	13,278	0.8	1,614,154
1922.....	290,236	15.4	828,048	43.8	390,572	20.7	365,379	19.3	16,073	0.8	1,890,308
1923.....	251,548	12.7	997,587	50.3	358,781	18.1	358,129	18.1	16,185	0.8	1,982,230
1924.....	348,031	14.2	1,166,501	47.6	452,268	18.4	471,870	19.2	14,682	0.6	2,453,402
1925.....	392,012	15.2	1,492,745	58.0	328,396	12.8	348,911	13.6	10,593	0.4	2,572,657
1926.....	350,280	14.7	1,341,918	56.4	357,181	15.0	314,990	13.3	13,115	0.6	2,377,484
1927.....	323,540	14.8	1,201,982	55.2	348,160	16.0	290,475	13.3	14,996	0.7	2,179,153
1928 ^b	298,543	13.6	1,165,198	53.1	382,843	17.5	332,544	15.2	14,567	0.6	2,193,695
1929 ^b	271,156	12.2	1,223,917	55.3	355,393	16.1	345,913	15.6	17,044	0.8	2,213,423

64. FOREIGN TRADE OF JAPAN PROPER, BY CLASSES OF COMMODITIES, 1909-1929 *—(Continued)
(In thousands of yen)

II. Exports

Period	Foodstuffs		Raw Materials		Semi-finished Manufactures		Finished Manufactures		Miscellaneous		Total
	Value	Per-centage of Total	Value	Per-centage of Total	Value	Per-centage of Total	Value	Per-centage of Total	Value	Per-centage of Total	
1909-1913 (Average)	53,852	10.9	42,588	8.6	246,413	49.7	147,567	29.8	5,264	1.0	495,684
1914.....	63,522	10.8	45,492	7.7	306,360	51.8	167,890	28.4	7,837	1.3	591,101
1915.....	80,117	11.3	45,422	6.4	323,401	45.7	242,867	34.3	16,499	2.3	708,306
1916.....	104,556	9.3	59,014	5.2	540,924	48.0	380,723	33.8	42,251	3.7	1,127,468
1917.....	172,187	10.7	81,484	5.1	725,577	45.3	588,155	36.7	35,602	2.2	1,603,005
1918.....	210,160	10.7	101,822	5.2	757,263	38.6	853,825	43.5	39,030	2.0	1,962,100
1919.....	149,662	7.1	109,270	5.2	906,131	43.2	901,424	43.0	32,385	1.5	2,098,872
1920.....	142,281	7.3	140,105	7.2	678,571	34.8	962,934	49.4	24,503	1.3	1,948,394
1921.....	79,682	6.4	79,409	6.3	550,727	44.0	524,175	41.8	18,844	1.5	1,252,837
1922.....	104,396	6.4	84,736	5.2	842,431	51.4	581,955	35.5	23,933	1.5	1,637,451
1923.....	91,091	6.3	81,088	5.6	700,761	48.4	557,718	38.5	17,092	1.2	1,447,750
1924.....	113,301	6.3	104,795	5.8	862,225	47.7	705,371	39.0	21,342	1.2	1,807,034
1925.....	147,315	6.4	163,025	7.1	1,089,904	47.3	878,482	38.1	26,863	1.1	2,305,589
1926.....	147,295	7.2	140,250	6.9	881,863	43.1	852,118	41.7	23,201	1.1	2,044,727
1927.....	145,562	7.3	137,324	6.9	852,183	42.8	831,236	41.7	26,012	1.3	1,992,317
1928 ^b	156,280	8.2	88,548	4.6	823,714	43.1	812,949	42.5	30,273	1.6	1,911,764
1929 ^b	160,118	7.6	88,739	4.2	883,775	42.0	937,307	44.6	33,787	1.6	2,103,726

* Japanese Department of Finance, *Book of Reference on Financial Affairs*.

^b Value of re-exports and re-exports not included, classified data being unavailable.

65. COMPOSITION OF FOREIGN TRADE OF JAPAN PROPER, 1929 *
(In thousands of yen)

I. Imports

Commodity	Value ^b	Percentage of Total
Cotton.....	573,016	25.9
Iron and steel.....	159,721	7.2
Machinery.....	121,094	5.5
Wool.....	101,815	4.6
Lumber.....	88,837	4.0
Beans.....	78,745	3.6
Bean-cake.....	75,919	3.4
Wheat.....	70,896	3.2
Sulphate of ammonia.....	48,086	2.2
Coal.....	42,978	1.9
Mineral oil.....	38,770	1.8
Sugar.....	31,159	1.4
Rice and paddy.....	22,781	1.0
Woolen tissues.....	19,941	0.9
Woolen yarn.....	18,736	0.8
Miscellaneous.....	723,746	32.6
Total.....	2,216,240	100.0

II. Exports

Raw silk.....	781,040	36.3
Cotton tissues.....	412,706	19.2
Silk tissues.....	149,954	7.0
Porcelain and earthenwares.....	36,962	1.7
Cotton hosiery.....	36,711	1.7
Refined sugar.....	29,974	1.4
Marine products.....	26,998	1.3
Cotton yarn.....	26,755	1.2
Paper.....	26,288	1.2
Tinned foodstuffs.....	25,680	1.2
Coal.....	23,215	1.1
Lumber.....	21,138	1.0
Iron manufactures.....	15,195	0.7
Glass and glasswares.....	13,210	0.6
Tea.....	12,028	0.6
Miscellaneous.....	510,764	23.8
Total.....	2,148,618	100.0

* Japanese Department of Finance, *Monthly Return of the Foreign Trade of Japan*.

^b Includes value of re-imports and re-exports.

**66. GEOGRAPHIC DISTRIBUTION OF EXTERNAL TRADE OF
TAIWAN, 1929 ^a**

Source or Destination	Imports		Exports	
	Thousands of Yen	Percentage of Total	Thousands of Yen	Percentage of Total
Japan proper ^b	140,369	68.5	238,705	87.8
China	29,573	14.4	17,690	6.5
British India	9,422	4.6	24	—
Germany	6,643	3.2	11	—
Great Britain	3,938	1.9	1,026	0.4
United States	3,901	1.9	4,067	1.5
French Indo-China	2,861	1.4	—	—
Kwantung Province	2,240	1.1	1,116	0.4
Dutch East Indies	1,541	0.8	4,296	1.6
Siam	1,000	0.5	24	—
Hongkong	74	0.1	4,116	1.5
Other areas	3,348	1.6	818	0.3
Total	204,910	100.0	271,893	100.0

^a Government-General of Taiwan, *Annual Return of the Trade of Taiwan*.

^b Includes trade, of negligible importance, with other colonies.

67. EXTERNAL TRADE

(In thousands)

Year	Imports			Exports		
	From Japan Proper	From All Other Countries	Total	To Japan Proper	To All Other Countries	Total
1897....	3,723	12,660	16,383	2,104	12,752	14,856
1898....	4,266	16,876	21,142	4,142	12,820	16,962
1899....	8,011	14,273	22,284	3,650	11,093	14,743
1900....	8,439	13,570	22,009	4,402	10,532	14,934
1901....	8,782	12,810	21,592	7,345	8,235	15,580
1902....	9,235	10,100	19,335	7,407	13,724	21,131
1903....	11,194	11,010	22,204	9,729	10,987	20,716
1904....	10,156	12,590	22,746	10,431	12,287	22,718
1905....	13,483	10,964	24,447	13,661	10,630	24,291
1906....	15,634	12,737	28,371	18,259	9,779	28,038
1907....	19,750	11,221	30,971	17,634	9,742	27,376
1908....	20,926	17,075	38,001	24,423	9,298	33,721
1909....	24,006	12,592	36,598	36,309	11,688	47,997
1910....	29,070	19,852	48,922	47,937	11,986	59,923
1911....	33,738	19,555	53,293	51,508	13,175	64,683
1912....	43,320	19,307	62,627	47,736	14,960	62,696
1913....	42,829	18,024	60,853	40,435	12,943	53,378
1914....	39,879	13,014	52,893	45,738	12,982	58,720
1915....	40,587	12,782	53,369	60,192	15,431	75,623
1916....	49,524	15,430	64,954	80,619	31,653	112,272
1917....	67,744	21,099	88,843	105,496	40,216	145,712
1918....	70,591	33,554	104,145	105,600	33,394	138,994
1919....	90,526	64,133	154,659	141,885	35,622	177,507
1920....	112,040	60,367	172,407	180,816	35,173	215,989
1921....	93,521	40,433	133,954	128,896	23,542	152,438
1922....	82,173	36,922	119,095	127,301	30,563	157,864
1923....	71,018	39,111	110,129	169,442	29,152	198,594
1924....	86,602	46,424	133,026	211,098	42,576	253,674
1925....	129,906	56,489	186,395	215,248	47,966	263,214
1926....	121,404	62,008	183,412	202,109	49,316	251,425
1927....	121,107	65,841	186,948	202,078	44,598	246,676
1928....	132,318	58,335	190,653	214,521	33,896	248,417
1929....	140,369	64,541	204,910	238,705	33,188	271,893

^a Government-General of Taiwan, *Annual Return of the Trade of for 1929*.

^b Taiwan and the other colonies are included within the same trade is with other parts of the Empire; hence, the index number of the external trade data of the colonies—except in the case of Nanyo.

^c The minus sign indicates net imports.

^d Includes trade, of negligible importance, with other colonies. For

OF TAIWAN, 1897-1929 *
of yen)

Total Trade with Japan Proper ^d		Total External Trade		Trade Balance ^c (Unadjusted)
Unadjusted	Adjusted ^b	Unadjusted	Adjusted ^b	
5,827	...	31,239	...	- 1,527
8,408	...	38,104	...	- 4,180
11,661	...	37,027	...	- 7,541
12,841	12,841	36,943	36,943	- 7,075
16,127	16,799	37,172	38,721	- 6,012
16,642	17,174	40,466	41,761	1,796
20,923	20,294	42,920	41,629	- 1,488
20,587	18,992	45,464	41,941	- 28
27,144	23,320	48,738	41,871	- 156
33,893	28,315	56,409	47,125	- 333
37,384	28,913	58,347	45,125	- 3,595
45,349	36,425	71,722	57,608	- 4,280
60,315	50,770	84,595	71,208	11,399
77,007	64,012	108,845	90,478	11,001
85,246	68,361	117,976	94,608	11,390
91,056	68,936	125,323	94,870	69
83,264	62,934	114,231	86,342	- 7,475
85,617	67,789	111,613	88,371	5,827
100,779	78,857	128,992	100,933	22,254
130,143	84,180	177,226	114,635	47,318
173,240	89,069	234,555	120,594	56,869
176,191	69,149	243,139	95,423	34,849
232,411	74,467	332,166	106,429	22,848
292,856	85,331	388,396	113,169	43,582
222,417	83,899	286,392	108,032	18,484
209,474	80,878	276,959	106,934	38,769
240,460	91,256	308,723	117,162	88,465
297,700	108,968	386,700	141,545	120,648
345,154	129,368	449,609	168,519	76,819
323,513	136,676	434,837	183,708	68,013
323,185	143,894	433,624	193,065	59,728
346,839	153,401	439,070	194,193	57,764
379,074	172,463	476,803	216,926	66,983

Taiwan, 1896-1928; Monthly Return of the Foreign Trade of Taiwan

monetary system as Japan proper and the bulk of their external Tokyo wholesale prices has been used as a rough basis for adjusting

the years 1910-1919, however, trade with Chosen is not included.

68. COMPOSITION OF TRADE OF TAIWAN WITH JAPAN PROPER, 1929 *
(In thousands of yen)

I. Imports

Commodity	Value	Percentage of Total
Cotton and silk fabrics.....	16,873	12.1
Iron and steel.....	9,087	6.5
Dried and salted fish.....	6,543	4.7
Lumber.....	5,807	4.1
Fertilizer.....	5,170	3.7
Paper.....	3,567	2.5
Flour.....	3,126	2.2
Beer.....	2,687	1.9
Cigarettes.....	2,589	1.8
Bicycles and parts.....	2,302	1.6
Automobiles and parts.....	2,251	1.6
Sake.....	2,239	1.6
Tinned foodstuffs.....	2,189	1.6
Woolen fabrics.....	2,005	1.4
Materials for hats.....	1,945	1.4
Miscellaneous.....	71,989	51.3
Total.....	140,369	100.0

II. Exports

Sugar.....	142,601	59.7
Rice and paddy.....	49,320	20.7
Hats.....	6,233	2.6
Pineapple in tins.....	4,407	1.8
Ores.....	3,820	1.6
Sake.....	3,505	1.5
Camphor oil.....	3,040	1.3
Camphor.....	2,612	1.1
Lumber.....	2,151	0.9
Miscellaneous.....	21,016	8.8
Total.....	238,705	100.0

* Government-General of Taiwan, *Annual Return of the Trade of Taiwan*. Includes trade, of negligible importance, with other colonies.

69. EXTERNAL TRADE OF CHOSEN, 1910-1929 *
(In thousands of yen)

Year	Imports			Exports			Total Trade With Japan Proper		Total External Trade		Trade Balance ^b (Un-adjusted)
	From Japan Proper	From All Other Countries	Total	To Japan Proper	To All Other Countries	Total	Un-adjusted	Adjusted	Un-adjusted	Adjusted	
1910.....	25 348	14 434	39 782	15 378	4 535	19 913	40 726	33 854	59 695	49 622	-19 869
1911.....	34 058	20 029	54 087	13 340	5 516	18 856	47 398	38 010	72 943	58 495	-35 231
1912.....	40 756	26 359	67 115	15 369	5 616	20 985	56 125	42 487	88 100	66 692	-46 130
1913.....	40 429	31 618	72 047	25 314	5 921	31 235	65 742	49 692	103 282	78 067	-40 812
1914.....	39 047	24 647	63 694	28 587	6 448	35 035	67 633	53 549	98 729	78 170	-28 659
1915.....	41 535	18 159	59 694	40 901	9 319	50 220	82 435	64 503	109 914	86 005	-9 474
1916.....	52 460	22 674	75 134	42 964	14 854	57 818	95 423	61 723	132 952	85 997	-17 316
1917.....	72 696	31 396	104 092	64 725	20 253	84 958	137 421	70 653	189 050	97 198	-19 134
1918.....	117 273	43 151	160 424	137 204	18 698	155 902	254 477	99 873	316 326	124 147	-4 522
1919.....	184 917	98 159	283 076	199 849	22 098	221 947	384 765	123 283	505 023	161 814	-61 129
1920.....	143 112	106 174	249 286	169 381	27 639	197 020	312 491	91 052	446 306	130 043	-52 266
1921.....	156 482	75 869	232 351	197 393	20 884	218 277	353 874	133 487	450 658	169 995	-14 104
1922.....	160 247	95 797	256 044	197 915	17 489	215 404	358 161	138 286	471 448	182 026	-40 640
1923.....	167 452	98 338	265 790	241 262	20 403	261 665	408 714	155 110	527 455	200 173	-4 125
1924.....	211 817	97 776	309 593	306 660	22 379	329 039	518 477	189 779	638 632	233 760	19 446
1925.....	234 623	105 388	340 011	317 289	24 341	341 630	551 911	206 863	681 641	255 498	1 619
1926.....	248 236	123 933	372 169	338 175	24 779	362 954	586 410	247 744	735 123	310 572	-9 215
1927.....	269 474	113 943	383 417	330 791	28 133	358 924	600 264	267 259	742 341	330 517	-24 493
1928.....	295 839	118 151	413 990	333 829	32 149	365 978	629 668	278 491	779 968	344 966	-48 012
1929.....	315 325	107 768	423 093	309 891	35 773	345 664	625 216	284 448	768 757	349 753	-77 429

* Government-General of Chosen, *Annual Table of Trade and Shipping, 1910-1928, Monthly Return of the Foreign Trade of Chosen for 1929.*

^b The minus sign indicates net imports.

^c Includes trade, of minor importance, with other colonies.

70. GEOGRAPHIC DISTRIBUTION OF EXTERNAL TRADE OF
CHOSŌN, 1929 ^a

Source of Destination	Imports		Exports	
	Thousands of Yen	Percentage of Total	Thousands of Yen	Percentage of Total
Japan proper ^b	315,325	74.5	309,891	89.7
China	70,658	16.7	30,630	8.9
United States.....	9,802	2.3	341	0.1
Dutch East Indies...	6,347	1.5	101	—
British India.....	4,193	1.0	6	—
Great Britain.....	3,747	0.9	3	—
French Indo-China..	3,303	0.8	30	—
Germany	3,074	0.7	1	—
Kwantung Province.	2,400	0.6	4,115	1.2
Asiatic Russia	1,083	0.3	38	—
Other areas.....	3,161	0.7	508	0.1
Total.....	423,093	100.0	345,664	100.0

^a Government-General of ChosŌn, *Annual Table of Trade and Shipping*, 1929.

^b Includes trade, of negligible importance, with other colonies.

**71. COMPOSITION OF TRADE OF CHOSEN WITH JAPAN
PROPER, 1929 ***

(In thousands of yen)

I. Imports

Commodity	Value	Percentage of Total
Cotton fabrics.....	35,967	11.4
Silk fabrics.....	13,889	4.4
Woolen fabrics.....	4,766	1.5
Machinery.....	13,662	4.3
Vehicles and vessels.....	10,317	3.3
Iron and steel.....	17,519	5.6
Rice and paddy.....	6,370	2.0
Flour.....	6,892	2.2
Sugar.....	4,513	1.4
Cotton.....	6,630	2.1
Cotton yarn.....	6,519	2.1
Paper.....	5,366	1.7
Paper, Japanese.....	1,430	0.5
Ammonium surphate.....	10,479	3.3
Other fertilizer.....	5,167	1.6
Rubber boots and shoes.....	4,220	1.3
Coal.....	3,790	1.2
Cement.....	3,234	1.0
Lumber.....	3,471	1.1
Porcelain and earthenware.....	2,916	0.9
Beer.....	2,386	0.8
Bicycles and parts.....	2,709	0.9
Miscellaneous.....	143,113	45.4
Total.....	315,325	100.0

II. Exports

Rice and paddy.....	148,550	47.9
Soy beans.....	22,067	7.1
Raw silk.....	20,143	6.5
Tussah silk.....	9,397	3.0
Fish guano and other fertilizer...	9,847	3.2
Pig iron.....	6,947	2.3
Cotton.....	6,578	2.1
Fish, dried.....	6,217	2.0
Fish, fresh.....	5,727	1.9
Fish oil.....	5,891	1.9
Cocoons.....	4,332	1.4
Porphyra.....	4,295	1.4
Cattle.....	3,491	1.1
Coal.....	2,832	0.9
Paper.....	2,341	0.8
Miscellaneous.....	51,236	16.5
Total.....	309,891	100.0

* Government-General of Chosen, *Monthly Return of the Foreign Trade of Chosen*, and *Annual Table of Trade and Shipping*. Includes trade, of negligible importance, with other colonies.

72. EXTERNAL TRADE OF KARAFUTO, 1914-1929 *

(In thousands of yen)

Year	Imports			Exports			Total Trade with Japan Proper ^d		Total External Trade		Trade Balance ^a (Un-adjusted)
	From Japan Proper ^b	From All Other Countries	Total	To Japan Proper ^b	To All Other Countries	Total	Un-adjusted	Adjusted	Un-adjusted	Adjusted	
1914	6,032	—	6,032	6,988	249	7,237	13,019	10,308	13,269	10,506	1,205
1915	5,465	22	5,487	30,907	183	31,090	36,373	28,461	36,577	28,621	25,603
1916	9,443	5	9,448	10,226	107	10,333	19,668	12,722	19,781	12,795	5,885
1917	11,721	2	11,723	17,242	50	17,292	28,962	14,890	29,015	14,918	5,569
1918	10,155	151	10,306	22,089	47	22,136	41,243	16,186	41,442	16,265	2,830
1919	22,452	78	22,530	28,641	76	28,717	51,093	16,371	51,247	16,420	6,187
1920	20,770	81	20,851	24,490	612	25,102	45,259	13,187	45,953	13,390	4,251
1921	16,790	44	16,834	22,135	879	23,014	38,925	14,683	39,848	15,031	6,180
1922	26,946	137	27,083	16,252	438	16,690	43,108	16,879	43,773	16,901	-10,393
1923	35,147	573	35,720	31,762	244	32,006	66,909	25,392	67,726	25,702	-3,714
1924	37,467	441	37,908	37,383	53	37,436	74,850	27,398	75,344	27,578	-472
1925	42,324	1,331	43,655	41,438	34	41,472	83,762	31,395	85,137	31,907	-2,183
1926	51,099	986	52,085	47,608	2	47,610	98,707	41,719	99,695	42,137	-4,475
1927	41,453	728	42,181	48,740	26	48,766	90,193	40,140	90,947	40,475	6,585
1928	46,085	738	46,823	50,915	199	51,114	97,000	42,901	97,937	43,316	4,291
1929	46,646	719	47,365	56,389	1,323	57,712	103,035	46,877	105,077	47,806	10,347

* Government of Karafuto, *A Short Review of Karafuto, and The Administration of Karafuto*.^b Includes inter-port movements of goods in the island, prior to 1924.^c The minus sign indicates net imports.^d Includes trade, of negligible importance, with other colonies

73. EXTERNAL TRADE OF NANYO, 1923-1929 ^a
(In thousands of yen)

Year	Imports			Exports			Total Trade with Japan Proper ^c	Total External Trade	Trade Balance ^b
	From Japan Proper	From All Other Countries	Total	To Japan Proper	To All Other Countries	Total			
1923.....	2,139	315	2,454	2,254	90	2,344	4,392	4,798	-110
1924.....	2,399	114	2,513	3,478	57	3,535	5,875	6,048	1,022
1925.....	3,483	164	3,647	5,843	21	5,864	9,325	9,511	2,217
1926.....	4,093	211	4,304	6,590	87	6,667	10,673	10,971	2,363
1927.....	3,621	193	3,814	7,827	40	7,867	11,448	11,681	4,063
1928.....	4,585	197	4,782	8,529	94	8,623	13,113	13,405	3,841
1929.....	6,494	628	7,122	8,179	78	8,257	14,671	15,379	1,135

^a Japanese Government, Bureau of Colonial Affairs, *The Statistics on Colonial Conditions, 1923-1927*; the figures for 1928 and 1929 were taken from compilations made by the Japanese Department of Colonial Affairs.

^b The minus sign indicates net imports.

^c Includes trade, of negligible importance, with other colonies

74. ESTIMATED NATIONAL WEALTH OF JAPAN PROPER, FOR SELECTED YEARS^a
(In thousands of yen)

Classification	1905	1910	1913	1917	1919	1924
Lands.....	8,397,470	9,802,050	13,795,180	13,862,710	33,085,660	33,247,340
Mines.....	1,169,190	2,063,730	1,468,490	4,425,160	6,412,820	3,523,230
Waters and harbors.....	1,065,480	1,586,340	2,767,430	3,082,660	4,596,980	5,153,600
Timber trees.....	3,994,470	4,660,220	1,760,150	6,421,280	4,533,710	1,747,870
Buildings.....	2,331,150	3,534,850	3,631,630	5,317,010	8,560,060	16,326,150
Furniture and household goods.....	872,550	1,265,690	1,566,000	1,992,890	4,423,510	9,683,360
Manufacturing machinery and implements.....	207,660	342,090	399,010	553,290	1,101,940	1,987,200
Livestock.....	115,340	161,280	154,400	229,010	502,860	626,010
Railways and tramways.....	686,900	970,290	299,340	2,091,670	1,110,700	3,544,210
Vehicles.....	10,980	14,610	47,230	56,460	181,900	423,590
Shipping.....	142,780	156,870	471,270	1,051,420	1,181,690	320,490
Water-works.....	44,750	55,940	76,860	127,770	149,040	283,350
Bridges.....	51,250	56,330	94,830	221,840	233,920	373,320
Agricultural products.....	873,100	1,109,080	994,380	2,458,450	3,624,460	3,310,420
Forest products.....	—	—	40,530	—	87,850	94,640
Manufactured products.....	—	—	747,500	—	2,630,050	2,311,160
Mining products.....	—	—	85,460	—	386,910	73,470
Aquatic products.....	—	—	19,850	—	43,360	46,310
Imported merchandise.....	—	—	192,300	—	445,090	501,800
Coins and gold and silver bullion.....	310,480	647,290	746,750	997,670	2,359,910	1,823,320
Property of departments of government.....	—	—	1,116,180	—	1,548,450	6,483,880
Credit abroad ^b	—	—	—	—	356,120	287,810
All other property.....	2,316,120	3,004,110	1,859,700	4,866,000	8,520,090	10,258,270
Total (actual).....	22,589,670	29,429,770 ^c	32,043,130	45,696,290	86,077,070	102,341,600
Total (adjusted) ^d	22,589,670	28,206,981	28,206,981	—	—	43,605,283
Per capita wealth (actual).....	514	598	600	815	1,530	1,731
Per capita wealth (adjusted) ^d	514	—	528	—	—	738

^a Mori, K., *Estimate of the National Wealth and Income of Japan Proper*, XIXth Session De L'Institut International de Statistique, Tokyo, 1930.

^b Minus sign indicates excess of debt.

^c This total does not agree with that given in the published source.

^d Adjusted by index number of wholesale prices in Tokyo; base, 1905 = 100.

75. ESTIMATED NATIONAL WEALTH OF JAPAN,
DECEMBER 31, 1924^a

Classified According to Form of Wealth
(In yen)

LAND—

Taxable land:

Rice fields.....	11,318,296,619
Other farms.....	5,609,764,204
Residential land....	11,975,407,839
Salt fields.....	21,505,502
Forests.....	325,795,836
Plains.....	29,551,140
Meadows and pastures	3,442,970
Mineral springs.....	1,398,460
Ponds and marshes..	1,788,060
Miscellaneous lands ..	16,172,550
	<hr/>
	29,308,123,180

Total land exempted for a specified period	2,144,380,730
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Permanently exempted land:

Land used by schools.	358,000,896
Land belonging to public shrines	46,059,552
Cemeteries and crematories.....	724,471,488
Wells and drains.....	79,477,056
Railway land	157,397,664
Tramway land.....	32,146,752
Water-works land....	47,488,032
Roads.....	190,193,184
Public parks.....	34,979,904
Sites of public offices..	25,194,816
Land used by post, telegraph, and telephone systems	190,464
Sites of agricultural, industrial, and fishing experimental stations	27,480,384
Sites of hospitals and quarantine stations	31,783,680
Sewers and pools....	2,162,132
Embankments.....	183,890
Protective forests....	26,297,010
Protective sands	628,552
Canal land	4,259
All other land permanently exempted...	15,699,403
	<hr/>
	1,799,839,118

33,247,343,028

MINES 3,523,233,310

**75. ESTIMATED NATIONAL WEALTH OF JAPAN,
DECEMBER 31, 1924—(Continued)
(In yen)**

WATERS AND HARBORS—		
Seas, lakes, and rivers.....	4,891,060,868	
Harbors	467,540,220	
		5,158,601,088
TIMBER TREES		1,747,871,100
BUILDINGS—		
Private buildings:		
Ordinary buildings...	15,202,877,017	
Institutional buildings	733,649,600	
		15,936,526,617
Public buildings	389,616,580	
		16,326,143,197
FURNITURE AND HOUSEHOLD GOODS		9,683,359,300
MANUFACTURING MACHINERY AND IMPLEMENTS		1,987,203,128
LIVESTOCK—		
Domestic animals.....	485,411,270	
Poultry	40,602,284	
		526,013,554
RAILWAYS AND TRAMWAYS—		
Local railways.....	749,140,800	
Tramways	2,762,353,920	
Railways for sole use of concerns.....	32,715,092	
		3,544,209,812
VEHICLES		428,591,402
SHIPPING		320,486,691
WATER-WORKS—		
For water supply.....	256,083,758	
Sewerage	27,258,236	
		283,341,994
BRIDGES		373,821,225
AGRICULTURAL PRODUCTS		3,310,422,488
FOREST PRODUCTS		94,641,745
INDUSTRIAL PRODUCTS		2,311,161,571
MINING PRODUCTS		73,472,191
AQUATIC PRODUCTS		46,310,418
IMPORTED MERCHANDISE		501,795,692
COINS AND GOLD AND SILVER BULLIONS—		
Subsidiary coins.....	228,916,543	
Specie possessed by the government...	411,000,000	
Specie possessed by the Bank of Japan	1,078,000,000	
Other gold and silver.....	105,902,400	
		1,823,818,943
PROPERTY OF DEPARTMENTS OF GOVERNMENT—		
For official use, under forestry management, and miscellaneous.....	6,103,702,573	
For public use.....	64,977,984	
Equipments and furnishings.....	315,201,881	
		6,483,882,438

75. ESTIMATED NATIONAL WEALTH OF JAPAN,
DECEMBER 31, 1924—(Continued)

(In yen)

OTHER PROPERTY.....	10,258,268,518
CREDIT AGAINST DEBT ABROAD ^b	287,807,368
TOTAL NATIONAL WEALTH.....	102,341,600,201

^a Mori, K., *Estimate of the National Wealth and Income of Japan Proper*, XIX^a Session De L'Institut International de Statistique, Tokyo, 1930.

^b The amount given here represents the excess of credit abroad over debt abroad. The detailed figures upon which it is based are given in the following table:

Public credit abroad:

Foreign bonds held by government.....	273,749,000
Chinese indemnities and redemptions due government.....	96,444,000
	<u>370,193,000</u>

Private credit abroad:

Foreign bonds privately owned.....	194,000,000
Investments in foreign undertakings.....	1,620,563,000
	<u>1,814,563,000</u>
	2,184,756,000

National debt abroad:

National loans floated abroad.....	1,514,265,804
Local loans floated abroad..	127,403,634
Internal loan bonds exported.....	25,954,600
	<u>1,667,624,038</u>

Private debt abroad:

Debentures raised abroad...	193,460,607
Foreigners' investments in Japan proper.....	21,993,000
Excess of imports.....	13,870,987
	<u>229,324,594</u>
	1,896,948,632

Net credit abroad.....	<u>287,807,368</u>
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76. ESTIMATED NATIONAL INCOME OF JAPAN PROPER, 1925^a
Classified by Sources of Income

	Thousands of Yen
STATE AND PUBLIC INCOME—	
From state undertakings and state properties:	
From forests.....	42,972
Rents and hires on state properties.....	816
Profits of Naval arsenals.....	1,998
Profits of the state iron foundry.....	1,358
Profits of state railways.....	143,259
Profits of monopolies.....	153,029
Profits of the Printing Bureau.....	1,911
Dividends of banks and companies.....	9,671
	<hr/> 355,014
Income from public bodies:	
Receipts from electric undertakings.....	51,338
Receipts from gas works.....	233
Receipts of industrial associations.....	18,022
Receipts of central treasuries of industrial associations.....	778
	<hr/> 70,371
TOTAL STATE AND PUBLIC INCOME	<hr/> 425,385
PRIVATE INCOME—	
Taxed income:	
Class I—Reserved income of corporations.....	320,554
Class II—Interest on bonds, debentures, etc.....	555,392
Class III—Other income of individuals.....	3,455,108
	<hr/> 4,331,054 ^b

Untaxed income:

Income from agriculture.....	1,658,540	
Income from aquatic products industry.....	233,076	
Income from mining.....	224,648	
Income from manufacturing industry.....	1,852,390	
Income from commerce.....	1,301,478	
Income from transport and communications.....	482,016	
Income from public service and professional occupations.....	571,994	
Income from domestic service.....	8,000	
Income of servants in households.....	199,728	
Income from other occupations.....	221,446	
Income of those having only subsidiary jobs.....	29,800	
Dividends.....	190,349	
Interests on postal savings, national bonds, etc.....	119,317	
Annuities and pensions of untaxable kind.....	66,546	
Income under special exemption.....	2,541	
Remittances from nationals abroad.....	25,453	
Miscellaneous.....	678,666	
Total income.....	7,865,988	12,197,042 ^b
TOTAL PRIVATE INCOME.....		12,622,427 ^b
ALL INCOME.....		

^a Mori, K., *Estimate of the National Wealth and Income of Japan Proper*, XIX^o Session De L'Institut International de Statistique, Tokyo, 1930.

^b These totals do not agree with those given in the published source of material used in this table.

^c The items in this group amount to 6,973,465,000 yen.

^d The items in this group amount to 892,523,000 yen.

^e This category includes the income entirely evading the income tax, assumed to be 10 per cent of the total of income below the exemption limit; and other items of income than those specified above, the totals of which are capable of rough estimate.

77. NATIONAL INCOME OF SELECTED COUNTRIES, 1928 *

Country	Income in Respective Currencies (In millions)	Income in Millions of Dollars ^b	Income in Yen ^c	
			Aggregate in Millions	Per Capita in Yen
Japan.....	11,852 ^d yen	5,501	11,034	178
Italy.....	110,038 lira	5,788	11,611	283
France.....	249,745 franc	9,790	19,639	477
Germany.....	68,505 reichsmark	16,345	32,788	516
United Kingdom...	3,500 pounds	17,032	34,166	748
United States	88,992 dollars	88,992	178,520	1,488

* The sources of the income figures are as follows: Italy and United Kingdom, Gini; France, Jacobsen; Germany, *Statistisches Reichsamt*; United States, Copeland. See *Economic Forces of the World*, published by the Dresdner Bank, Berlin, 1930.

^b Converted from respective currencies to dollars at current rates of exchange.

^c Converted from dollars to yen at par of exchange.

^d Estimated.

78. FINANCIAL CONDITION OF THE RICE CONTROL ACCOUNT, 1922-1929
(In thousands of yen)

Fiscal Year	Assets				Liabilities				
	Rice in Stock	Cash on Hand	Real Property, Furni- ture, Etc.	Losses * Sustained	Total	Borrowed Capital	Rice Purchase Notes Outstand- ing	Accounts Payable, Etc.	Total
1921-22.....	18,157	3,669	13	—	21,839	340	20,202	1,187	21,839 ^b
1922-23.....	19,881	38	781	8,283	28,983	11,980	15,592	1,411	28,983
1923-24.....	16,466	163	1,654	14,855	33,138	20,450	11,900	788	33,138
1924-25.....	38,369	496	5,626	16,316	60,807	22,000	38,340	467	60,807
1925-26.....	37,787	208	7,337	22,681	68,013	51,800	16,044	169	68,013
1926-27.....	34,409	46	11,527	33,760	79,742	73,494	6,092	156	79,742
1927-28.....	72,526	6	20,417	49,729	142,678	85,657	56,683	338	142,678
1928-29.....	61,315	37	15,134	75,059	151,545	136,391	14,625	529	151,545

* Includes all expenses connected with the operation of rice control plus losses resulting from the sales in rice.

^b The items entering into this total add to 21,729; we are unable to ascertain where the error lies.

79. MARKET OPERATIONS AND REGULA
(In bus

Fiscal Year	Rice Purchases			Rice Sales			Accumulated Stock ^a
	Home-grown	Foreign	Total	Home-grown	Foreign	Total	
1921-22	2,217,565	—	2,217,565	308,390	665,505	973,895	1,243,670
1922-23	—	291,425	291,425	325,022	986,023	1,311,045	224,050
1923-24	4,859,283	858,676	5,717,959	100,368	—	100,368	4,814,709
1924-25	64,672	5,273,514	5,338,186	2,448,424 ^b	...	2,448,424 ^b	7,704,471
1925-26	1,288,725	—	1,288,725	1,422,415	935,429	2,357,844	6,635,352
1926-27	2,085,396	—	2,085,396	—	335,466	335,466	8,385,282
1927-28	9,864,465	—	9,864,465	60,377	2,867,585	2,927,962	15,321,786
1928-29	2,527,322	—	2,527,322	2,441,620	—	2,441,620	15,407,487

^aNo adjustment has been made in this column because of stock deterioration resulting from from the earthquake of 1923, have been deducted.

^b Includes sales of foreign purchased rice.

CTIONS OF "RICE CONTROL," 1922-1929
hels)

Rice Purchases			Rice Sales			Accumulated Stock ^a	Import Regulations
Home-grown	Foreign	Total	Home-grown	Foreign	Total		
433,180	—	433,180	80,241	130,000	190,241	242,939	Duty removed in November
—	56,927	56,927	63,490	192,610	256,100	43,766	Duty restored in November
949,214	167,734	1,116,948	19,606	—	19,606	940,507	Duty removed in September
12,633	1,030,130	1,042,763	478,276	...	478,276	1,504,994	Duty restored in July
251,740	—	251,740	277,855	182,727	460,582	1,296,152	Duty removed in January; restored in November
407,362	—	407,362	—	65,530	65,530	1,637,984	Duty removed in February; restored in August
1,926,928	—	1,926,928	11,794	560,155	571,949	2,992,963	Importation restricted in March
493,688	—	493,688	476,947	—	476,947	3,009,704	...

cakage, vermin and rodent damage, etc; but losses amounting to 1,026,931 bushels, which resulted

80. SUBSIDIES OR CONTRIBUTIONS PAID FROM THE NATIONAL TREASURY, 1928-1929.
(In yen)

Purpose of Subsidy	General Account	Imperial Railways	Chosen	Taiwan	Kwantung	Karafuto	South Sea Islands	Chinese Cultural Works
Education.....	13,356,172	—	4,441,231	20,000	—	30,000	35,000	589,000
Hospitals and sanitation.....	2,219,214	—	906,213	288,226	—	57,080	—	—
Labor exchanges, improvement of slums, and other social works.....	2,061,869	—	917,447	—	—	52,520	1,000	469,000
Water-works.....	1,396,300	—	321,000	290,833	—	170,000	—	—
Sewerage.....	236,700	—	352,000	—	—	—	—	—
Policing.....	1,120,784	—	—	—	—	—	—	—
Interest on local government loans.....	2,030,966	—	—	—	—	—	—	—
Earthquake relief and reconstruction.....	26,405,337	—	—	—	—	—	—	—
Harbor works.....	7,634,900	—	261,000	—	—	30,000	—	—
Road making and repairing.....	7,031,668	—	342,000	—	—	401,066	—	—
River embankments.....	1,568,500	—	5,592,000	3,211,800	—	28,000	—	—
Railways.....	1,102,136	6,300,000	4,300,000	94,000	—	881,571	—	—
Encouragement of automobile industry.....	829,900	150,000	—	—	—	—	—	—
Encouragement of aeronautics.....	936,000	—	—	—	—	—	—	—
Steamship lines.....	6,836,748	—	1,016,500	1,675,624	32,300	—	760,000	—
Encouragement of agriculture.....	10,821,692	—	1,112,503	116,000	121,350	139,710	—	—
Encouragement of forestry.....	2,581,955	—	579,014	57,800	27,800	—	—	—
Encouragement of stock farming.....	1,263,564	—	143,388	20,000	4,200	69,340	—	—
Encouragement of marine products industry.....	1,570,884	—	217,283	—	106,000	—	—	—
Commerce and industry.....	—	—	—	—	—	34,800	—	—
Manufacture of dyes.....	1,004,500	—	—	—	—	180,995	—	—
Encouragement of the use of broad cloths.....	135,000	—	—	—	—	—	—	—

**81. INDEX NUMBERS OF TOKYO WHOLESALE PRICES OF PRINCIPAL
FOOD CROPS, 1900-1929 ***
(October, 1900 = 100)

Year	Rice	Barley	Wheat	Soy Beans
1900.....	100	100	100	100
1901.....	105	92	93	94
1902.....	107	107	93	89
1903.....	122	141	119	101
1904.....	112	175	127	136
1905.....	109	164	136	129
1906.....	124	108	114	124
1907.....	139	132	132	135
1908.....	136	151	126	117
1909.....	112	143	136	99
1910.....	113	139	134	127
1911.....	147	144	130	127
1912.....	176	207	145	139
1913.....	183	197	146	142
1914.....	137	126	140	141
1915.....	111	104	147	111
1916.....	116	113	140	136
1917.....	167	204	175	180
1918.....	276	367	286	236
1919.....	390	400	294	284
1920.....	377	374	272	285
1921.....	262	243	238	180
1922.....	297	215	210	208
1923.....	277	238	205	225
1924.....	327	326	233	253
1925.....	353	342	289	279
1926.....	319	239	252	234
1927.....	298	226	228	221
1928.....	262	280	223	228
1929.....	246	271	219	227

* Compiled by the Bank of Japan.

82. TOKYO CHAMBER OF COMMERCE WHOLESALE PRICE AND WAGE INDEXES, 1900-1929 ^a

Year	1900 = 100 ^b		Year	July-December, 1920 = 100 ^c	
	Price Index	Wage Index		Price Index	Wage Index
1900.....	100.0	100.0	1920.....	100.0	100.0
1901.....	93.0	101.0	1921.....	91.2	102.2
1902.....	93.0	103.0	1922.....	90.8	109.8
1903.....	97.0	103.0	1923.....	91.2	111.9
1904.....	104.0	104.0	1924.....	95.6	115.8
1905.....	114.0	115.0	1925.....	93.6	110.4
1906.....	111.0	121.0	1926.....	84.4	108.8
1907.....	120.0	128.0	1927.....	79.8	113.0
1908.....	118.0	134.0	1928.....	78.4	111.4
1909.....	114.0	132.0	1929.....	74.8	112.2
1910.....	117.0	135.0			
1911.....	124.0	136.0			
1912.....	131.0	141.0			
1913.....	138.0	146.0			
1914.....	124.0	143.0			
1915.....	119.0	143.0			
1916.....	143.0	153.0			
1917.....	196.0	181.0			
1918.....	277.0	224.0			
1919.....	316.0	306.0			

^a Compiled and published by the Tokyo Chamber of Commerce and Industry.

^b Price index is based on 52 commodities and wage index on wages in 44 industries.

^c Price index is based on 81 commodities and wage index in wages in 52 industries.

83. ESTIMATED POPULATION OF JAPAN, 1721-1846 *

Year	Males	Females	Total	Index Number
1721.....	—	—	26,065,425	98.17
1726.....	—	—	26,548,998	100.00
1732.....	14,407,107	12,514,709	26,921,816	101.02
1744.....	—	—	26,153,450	98.51
1750.....	13,818,654	12,099,176	25,917,830	97.24
1756.....	13,833,311	12,228,919	26,062,230	98.16
1762.....	13,785,400	12,136,058	25,921,458	97.25
1768.....	—	—	26,252,057	98.88
1774.....	—	—	25,990,451	97.51
1780.....	—	—	26,010,600	97.57
1786.....	—	—	25,086,466	94.49
1792.....	—	—	24,891,441	93.71
1798.....	—	—	25,471,033	95.93
1804.....	—	—	25,517,729	96.11
1816.....	13,427,249	12,194,708	25,621,957	96.50
1828.....	14,160,736	13,040,064	27,200,800	102.45
1834.....	—	—	27,063,907	101.93
1846.....	13,854,043	13,053,582	26,907,625	101.35

* Honjo, Eijiro, *The Population and Its Problems in the Tokugawa Era*, XIX* Session De L'Institut International de Statistique, Tokyo, 1930, p. 8.

84. POPULATION OF JAPAN PROPER, 1872-1930
(In thousands)

Year	Males	Females	Total	Index Number
1872 ^a	17,666	17,140	34,806	100.0
1873.....	17,755	17,230	34,985	100.5
1874.....	17,835	17,319	35,154	101.0
1875.....	17,913	17,403	35,316	101.5
1876.....	18,030	17,525	35,555	102.2
1877.....	18,187	17,683	35,870	103.1
1878.....	18,327	17,839	36,166	103.9
1879.....	18,472	17,992	36,464	104.8
1880.....	18,559	18,090	36,649	105.3
1881.....	18,712	18,253	36,965	106.2
1882.....	18,854	18,405	37,259	107.0
1883.....	19,006	18,563	37,569	107.9
1884.....	19,199	18,763	37,962	109.1
1885.....	19,368	18,945	38,313	110.1
1886.....	19,480	19,061	38,541	110.7
1887.....	19,554	19,149	38,703	111.2
1888.....	19,716	19,313	39,029	112.1
1889.....	19,940	19,533	39,473	113.4
1890.....	20,153	19,749	39,902	114.6
1891.....	20,322	19,929	40,251	115.6
1892.....	20,443	20,065	40,508	116.4
1893.....	20,616	20,244	40,860	117.4
1894.....	20,755	20,387	41,142	118.2
1895.....	20,960	20,597	41,557	119.4
1896.....	21,164	20,828	41,992	120.6
1897.....	21,356	21,044	42,400	121.8
1898.....	21,590	21,296	42,886	123.2
1899.....	21,836	21,568	43,404	124.7
1900.....	22,051	21,796	43,847	126.0
1901.....	22,298	22,061	44,359	127.4
1902.....	22,606	22,358	44,964	129.2
1903.....	22,901	22,645	45,546	130.9
1904.....	23,195	22,940	46,135	132.5
1905.....	23,421	23,199	46,620	133.9
1906.....	23,599	23,439	47,038	135.1
1907.....	23,786	23,630	47,416	136.2
1908.....	24,041	23,924	47,965	137.8
1909.....	24,326	24,228	48,554	139.5
1910.....	24,650	24,534	49,184	141.3
1911.....	24,993	24,859	49,852	143.2

^a For this year the figure is for March 8; for all others it is January 1.

84. POPULATION OF JAPAN PROPER, 1872-1930—(Continued)
(In thousands)

Year	Males	Females	Total	Index Number
1912.....	25,365	25,212	50,577	145.3
1913.....	25,737	25,568	51,305	147.4
1914.....	26,105	25,934	52,039	149.5
1915.....	26,465	26,287	52,752	151.6
1916.....	26,841	26,655	53,496	153.7
1917.....	27,158	26,976	54,134	155.5
1918.....	27,453	27,286	54,739	157.3
1919.....	27,602	27,431	55,033	158.1
1920.....	27,812	27,661	55,473	159.4
1921.....	28,134	27,967	56,101	161.2
1922.....	28,493	28,305	56,798	163.2
1923.....	28,879	28,664	57,543	165.3
1924.....	29,261	29,020	58,281	167.4
1925.....	29,660	29,398	59,058	169.7
1930.....	32,388	32,059	64,448	185.2

**85. GROWTH AND COMPOSITION OF THE SAVINGS FUND IN
JAPAN PROPER, 1913, 1922, 1928 ***
(In thousands of yen)

Classification	1913	1922	1928
Postal savings.....	195,673	976,375	1,743,134
Post-office life insurance reserves.....	—	40,394	356,849
Savings bank deposits.....	356,078	651,245	1,249,934
Commercial bank deposits:			
Time deposits.....	676,893	3,380,685	5,034,663
Special current deposits.....	249,056	1,993,940	1,964,660
“Special Banks” deposits:			
Time deposits.....	134,957	399,293	588,709
Special current deposits.....	9,049	85,714	118,596
Trust company funds ^b	—	—	1,024,161
Co-operative credit society deposits.....	22,705	337,778	1,011,242
“Mujin” instalments.....	...	127,587	519,349
Life insurance company reserves	108,078	495,000	1,129,024
Total.....	1,752,489	8,488,011	14,740,321

* All figures are for the end of calendar year excepting the figures in the last column for post-office life insurance reserves and life insurance company reserves, which are for March 31, 1929.

^b Includes ordinary trust funds and money held in trust.

86. DISTRIBUTION OF SECURITIES AMONG PRINCIPAL GROUPS OF FINANCIAL INSTITUTIONS, 1922 AND 1928
(In thousands of yen)

Institution	1922						1928					
	Govern- ment Bonds	Local Govern- ment Bonds	Foreign Securi- ties	Corporate Deben- tures	Shares	Total	Govern- ment Bonds	Local Govern- ment Bonds	Foreign Securi- ties	Corporate Deben- tures	Shares	Total
Treasury Deposits Bu- reau*.....	236,924	97,038	237,807	436,362	—	1,008,131	608,497	395,977	76,393	630,242	—	1,711,109
Bank of Japan.....	169,608	—	141,800	—	—	311,408	203,399	—	17,128	—	—	220,527
Hypotheec Bank of Japan.....	8,053	1,662	287	2,309	292	12,603	30,958	13,599	—	5,399	159	50,115
Other special banks.....	289,689	14,604	37,033	74,118	10,219	425,663	434,265	24,471	36,761	99,600	51,086	646,183
Commercial banks.....	909,543	92,378	72,494	390,088	281,529	1,746,032	1,487,262	317,007	30,840	1,026,695	421,747	3,283,551
Savings banks.....	185,949	16,530	3,855	45,477	53,698	305,509	395,806	40,324	—	244,713	101,366	782,209
Insurance companies.....	80,041	20,861	44,211	119,236	115,105	379,454	111,518	56,645	16,343	336,386	324,679	845,571
Trust companies.....	—	—	—	—	—	—	77,534	57,417	—	230,418	31,694	397,063
Central Bank of Co-oper- ative Societies.....	—	—	—	—	—	—	593	14,950	—	—	—	14,643
Co-operative unions.....	...	...	...	...	...	...	...	...	...	...	...	63,270
"Mujin" companies.....	...	...	...	...	...	429	...	...	...	...	...	764
Total.....	1,879,807	243,073	537,487	1,067,590	460,843	4,189,229	3,349,832	919,490	177,465	2,573,453	930,731	8,015,005

* Deposits Bureau figures listed under 1922 are for the fiscal year ending March 31, 1923.

87. COMMERCIAL BANK DIVIDENDS, 1909-1929 ^a
(In percentages)

Year	"Big Five" Banks ^b	All Banks
1909.....	7.7	7.5
1910.....	5.6	7.4
1911.....	8.1	7.4
1912.....	5.0	7.5
1913.....	5.0	7.1
1914.....	5.3	7.3
1915.....	5.2	7.0
1916.....	5.7	7.0
1917.....	7.0	7.4
1918.....	9.2	7.5
1919.....	21.3	8.5
1920.....	10.7	8.5
1921.....	10.9	8.8
1922.....	11.4	8.7
1923.....	12.4	9.0
1924.....	11.4	8.8
1925.....	11.4	8.5
1926.....	12.4	8.6
1927.....	9.9	7.1
1928.....	9.9	7.0
1929.....	9.8	

^a Japanese Department of Finance, *Book of Reference on Financial Affairs*.

^b For 1909-1911, average of Mitsui, Dai-ichi and Yasuda; for 1912-1918, average of Mitsui, Dai-ichi, Yasuda and Sumitomo; for 1919-1929, average for Mitsui, Mitsubishi, Dai-ichi, Yasuda and Sumitomo.

88. IMPORTS, PRODUCTION, AND EXPORTS OF IRON ORE AND IRON AND STEEL PRODUCTS, JAPAN PROPER, 1923-1927 ^a

(In metric tons)

I. Imports ^b

Year	Iron Ore ^c	Pig Iron	Waste and Old Iron	Steel Ingots and Slabs	Steel Products
1923.....	988,650	347,526	52,334	18,959	795,713
1924.....	1,201,859	445,657	41,618	10,330	1,149,087
1925.....	1,211,577	318,493	43,194	10,784	529,291
1926.....	891,822	403,635	80,155	33,548	921,745
1927.....	1,106,252	477,896	228,013	88,148	810,596

II. Production

1923.....	55,174	610,751	—	959,008	753,304
1924.....	57,922	598,405	—	1,099,283	829,115
1925.....	75,765	696,111	—	1,300,203	1,018,221
1926.....	130,420	821,832	—	1,506,215	1,244,772
1927.....	159,005	911,258	—	1,685,212	1,400,416

III. Exports

1923.....	—	—	9,540	1,624	16,648
1924.....	—	—	27,017	1,699	25,219
1925.....	—	—	26,313	2,067	35,580
1926.....	—	—	10,255	272	25,331
1927.....	—	—	8,701	329	15,928

^a Japanese Department of Commerce and Industry, Mining Bureau, *The Manual of Iron Industry*.

^b Re-exports have been deducted in order to give the net imports for Japanese use.

^c Includes imports from Chosen which amount, in value terms to about 10 per cent of the total.

JAPANESE WEIGHTS AND MEASURES AND THEIR EQUIVALENTS

1 Ri	2.44033 miles
1 Chō	119.30410 yards
1 Ken	1.9884 yards
1 Shaku	0.9942 foot
1 Square Ri	5.95524 square miles
1 Cho	2.4507 acres
1 Tan	1,186.1157 square yards
1 Se	118.61157 square yards
1 Bu	3.9537 square yards
1 Square Shaku	0.9884 square foot
1 Picul	132.277 pounds
1 Kin	1.32277 pounds
1 Kan	8.26731 avoirdupois pounds 10.04708 troy pounds
1 Momme	57.8711 grains
1 Koku	5.11927 bushels 47.66444 gallons
1 Sho	0.0511927 bushel 0.4766444 gallon

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